HOW TO ORGANIZE ANTIMICROBIAL STEWARDSHIP IN LONG-TERM CARE FACILITIES

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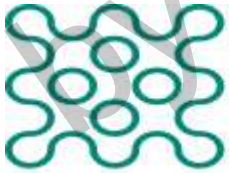


ESGAP

ESCMID STUDY GROUP FOR ANTIBIOTIC POLICIES

European Society of Clinical Microbiology and Infectious Diseases

RECENT REVIEWS ON THE TOPIC

- Dyar OJ, Pagani L, Pulcini C. *Strategies and Challenges of Antimicrobial Stewardship in Long-Term Care Facilities*. **Clin Microbiol Infect; 2015**; 21: 10–19.
- Moro ML, Gagliotti C. *Antimicrobial resistance and stewardship in long-term care settings***. Future Microbiol. 2013**; 8: 1011-1025.
- Nicolle LE. *Antimicrobial stewardship in long term care facilities: What is effective?* **Antimicrob Resist Infect Control. 2014**; 3: 6.
- Rhee SM, Stone ND. *Antimicrobial stewardship in long-term care facilities*. **Infect Dis Clin North Am. 2014**; 28: 237-246.
- Crnich *et al*. Optimizing Antibiotic Stewardship in Nursing Homes: A Narrative Review and Recommendations for Improvement. **Drugs Aging** (**2015**) 32:699–716
- Fleming et al. Antibiotic Prescribing in Long-Term Care Facilities: A Meta-synthesis of Qualitative Research**. Drugs Aging** (**2015**) 32:295–303

THE CHALLENGES

Specificities of LTCFs for elderly

- Residents are clustered
- Residents usually cognitively impaired, unable to follow basic hygiene measures
- Caregivers often inadequately trained
- Poor adherence of staff to infection control measures
- Frequent understaffing (& sometimes young doctors/nurses in training with high turn-over)

Mathei C, et al. Infections in residents of nursing homes Infect Dis Clin N Am 2007;21:761-772

1. Difficult decision-making process: high level of diagnostic uncertainty

- Difficulties in getting relevant clinical information (hearing loss, dementia…)
- Clinical findings often atypical and non specific
- Lack of onsite diagnostic facilities
- And difficulties in getting good quality samples/investigations
- Colonisation / infection

2. Healthcare organisation / culture

Medical staff

- Multiple doctors
- Lack of onsite doctors to provide immediate clinical assessment
- Unfamiliarity with patients
- Half of antibiotics are prescribed over the phone

Nursing staff

- Shortage of staff
- Rapid staff turnover
- Insufficient training on infection
- Nurses are the cornerstone of care in LTCFs, and doctors rely on the information they provide to prescribe antibiotics

Antibiotics are sometimes prescribed to avoid hospitalisation or a revisit

3. Lack of local resistance data

- < 20% of the cases in European LTCFs

The same is true for antibiotic use data

4. High prevalence of bacterial colonisation

- Wounds
- Urine
  - 100% if catheter
  - No catheter: 25%-50% (women) and 15%-40% (men)
- RTI if COPD
- Systematic samples

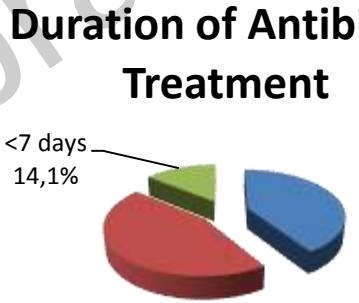
= driver for unnecessary antibiotic use

5. AB use and end-of-life care

- Controversial topic
- ABs are largely prescribed in that situation (mostly RTI and dementia)
- Positive clinical impact not proven
- Advance care plans might be helpful

6. Prolonged antibiotic treatments

- Retrospective study
- 66 901 Residents of Ontario, Canada, 630 LTCFs in 2010
- 50 061 received antibiotics (78%)
- 2601 different physicians
  - 1/5th responsible for 4/5th of prescriptions
- Short, average, long duration prescribers had similar characteristics
- Residents had similar characteristics



- **Long durations appear to be influenced by prescribers' preference more than patients' characteristics**

Daneman N, et al. Less is more. Prolonged antibiotic treatment in long-term care Role of the prescriber. JAMA Intern Med. 2013;173(8):673-682

7. Patients' and families' expectations

- Same problems as in primary care practice

8. Guidelines

- Often not available in LTCFs
- Concern that the usual guidelines are generally not applicable to the older LTCF population
- ‘Frailty’ concept
- ‘Better safe than sorry’ => overprescription

9. Lack of awareness

- Bacterial resistance is invisible
- Impact overlooked
- Short life expectancy
- AMS is not a priority compared to other topics

SOME STRATEGIES

1. No AB prescription without a clinical examination

- Association between absence of clinical examination and:
  - Increased AB use
  - More AB misuse
- Important to document indication (and duration) in the medical record

2. Education

- All **healthcare professionals**
  - **Doctors**: CME, audits and feedback, AB prescribing profiles
  - **Nurses**:
    - When is a bacterial infection likely ?
    - When should AB not be prescribed
    - Indications for microbiological investigations
- **Patients** and their **families**: bacterial resistance, situations when an AB is not needed

- http://www.sante.gouv.fr/kit-pedagogique-pour-l-usage-des-antibiotiques-en-etablissement-d-hebergement-pour-personnes-agees-dependantes-ehpad,13615.html
- http://www.plan-antibiotiques.sante.gouv.fr/Kit-antibiotiques-en-EHPAD-ARS-Ile.html

3. Where to start ?

Global strategy

- Target situations where AB misuse is frequent
- And where improving prescribing will be easier
- Stepwise approach
- Change the system

Situations where misuse is frequent

- AB prophylaxis (UTI)
- Colonisation
- No guidelines
- Broad-spectrum AB
- Topical AB
- Durations of treatment

Antimicrobial stewardship in LTCFs

- Relatively new
- Stepwise approach recommended, same general principles of AMS programs in hospitals/primary care
- Initial steps
  - Least costly and intrusive
- Additional steps
  - Measures that taget the prescribing practices of providers
  - Real-time feedback

Smith PW, et al. Antibiotic stewardship programs in long-term care facilities. Clin Care Aging 2011;19:20-25

Establishing an ASP in LTCFs

- Create an antimicrobial stewardship team
- Assess baseline practices
- Identify 1-2 areas for intervention
- Set goals
- Implement strategies to reach the goals (quick wins as the first step)

- *Calfee DP, et al. Establishment of antimicrobial stewardship programs in long-term care facilities. Program and abstracts of teh Society for Healthcare Epidemiology of America 2011 Annual meeting; Dallas, Texas; April 1 -4, 2011. Abstract 393*
- *Trivedi KK, et al. Antimicrobial stewardship in long-term care www.medscape.com/viewarticle/762755_print*

4. Microbiological investigations

- Urine dipsticks
- Urine cultures
- Wound swabs

- Only if prescribed by a doctor, after a clinical examination

5. Reassess AB prescriptions around day 3

Especially if:

- Potentially severe infection: pyelonephritis, prostatitis, pneumonia…
- Diagnosis uncertainty
- Adaptation to microbiology results

6. Major role of microbiology lab

- Reporting:
  - Educational messages
  - Restrictive reporting (no reporting or limited number of antibiotics)

7. Rapid diagnostic tests ?

- Ideally Point-Of-Care (POC)
- CRP ?
- Influenza ?

8. Innovative strategies need to be tested!

- Infection champion
- AMS team
- ID advice available on the phone
- Computerised decision support systems
- …

- Process and outcome indicators to monitor your program +++

9. Regulatory measures

- Certification/accreditation
- LTCF medical coordinator
- Integrate AMS in existing quality/safety/infection prevention and control programmes
- Should be part of regulatory requirements