Predictors of Multidrug-Resistant Organism Infection in U.S. Nursing Homes
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RESULTS: Sample Characteristics
- Mean age = 83.6 years
- Female gender = 72.7%
- Race/Ethnicity:
  - White: 66%
  - Black: 14%
  - Hispanic: 10%
  - Asian: 2%

CONFIRMATION & SPECIFICATION OF ASSOCIATIONS
- MDRO history is strongest predictor
- New findings include:
  - Only locomotion support matters among activities of daily living
  - Intermittent catheter increases probability of MDRO almost as much as indwelling catheters

ADAPTING PRACTICE TO RESIDENT NEEDS?
- Dementia inversely associated with MDRO
- Hygiene and wandering not significant

USEFUL FOR ROOMMATE SELECTION
- As 12.8% of active MDRO infected residents are on isolation precautions, choosing roommates according to MDRO risk is critical

IMPLICATIONS
- While rates of active MDRO infection among assessments is low, rates are likely higher, especially as this does not include MDRO colonization
- Tailoring practice to the needs of residents with dementia and/or need support with hygiene activities may be effective to prevent MDRO infection
- Future research to clarify the relationship between specific care practices, NH staffing and MDRO infection is needed

BACKGROUND
- Reduction of multidrug-resistant organism (MDRO) infections in nursing homes (NHs) is a national priority
- NH staff implement infection prevention interventions (e.g., isolation) on a case-by-case basis as residents’ quality of life is a goal of care
- Previous studies of MDRO risk factors among NH residents have limited external validity
- New evidence is needed to inform MDRO infection prevention in NHs
- Centers for Medicare and Medicaid Services (CMS) require clinical assessments of NH residents, recorded in the Minimum Data Set (MDS)
- In 2010, the MDS changed to include MDRO for the first time, providing the opportunity to evaluate risk factors on the national level

AIM
The objective of this study was to determine predictors of MDRO infection in U.S. NH

METHODS
- Longitudinal study guided by the Quality Health Outcomes model
- Data from 3 national datasets:
  - Quarterly clinical and demographic: MDS 3.0
  - Annual facility inspections: Certification and Survey Provider Enhanced Reporting
  - Annual location characteristics: Area Health Resource File
- Random 10% sample of CMS-certified NHs, 2010-2013
- Admissions, quarterly and annual assessments of all elderly, long-stay residents
- Predictors of MDRO infection pulled from the most recent assessment before the MDRO infection
- Predictors evaluated by multivariable linear regression model with facility fixed effects

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