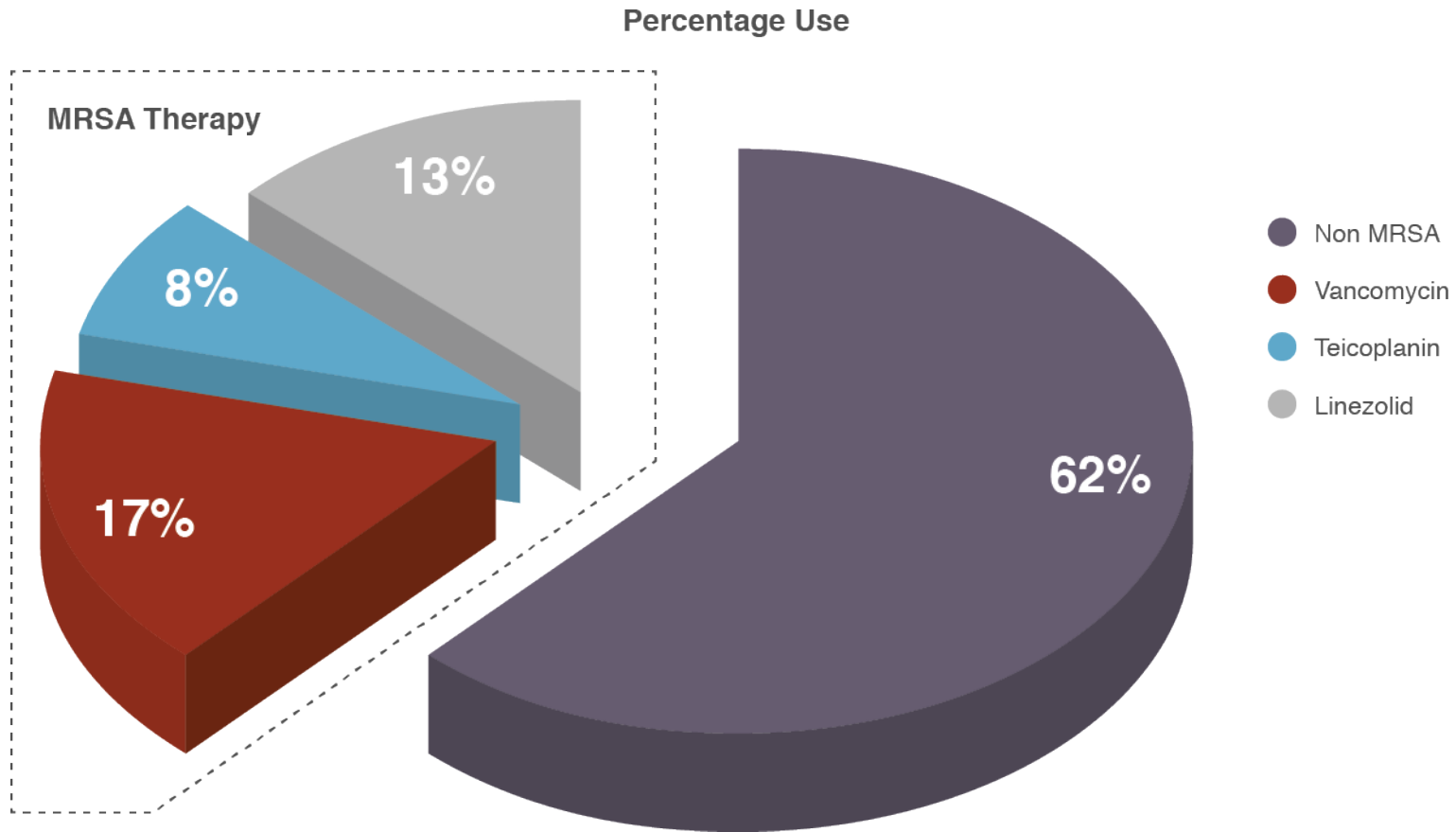


Current treatment options

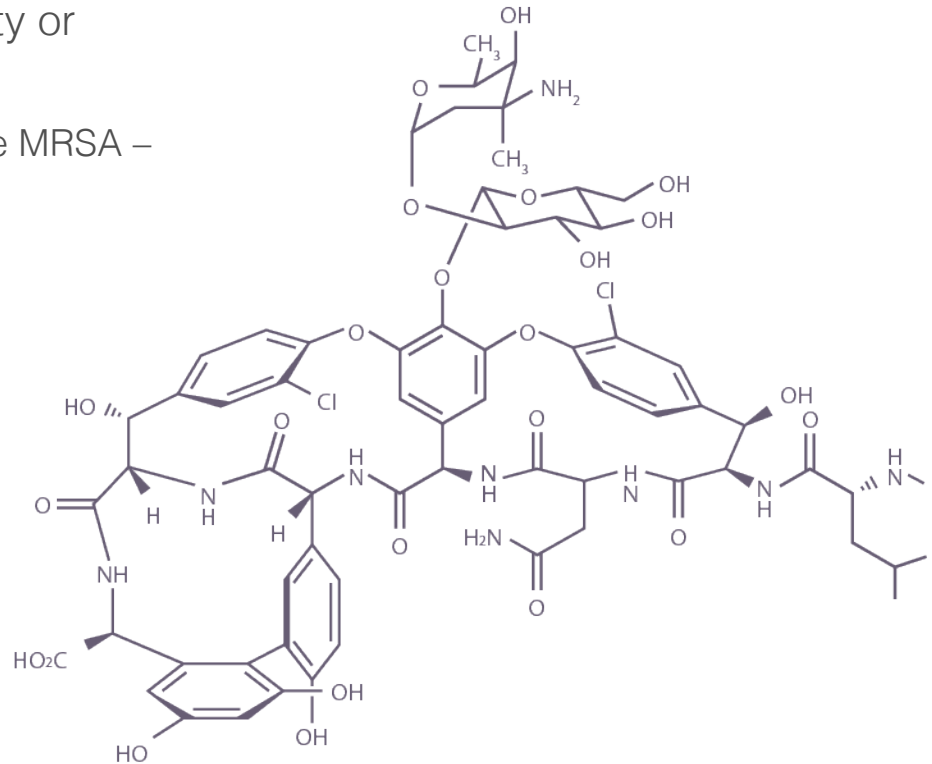


Antibiotic prescribing in MRSA HCAP



Potential limitations of vancomycin¹

- MRSA strains with reduced susceptibility or resistance to vancomycin¹
 - Rising MIC among vancomycin susceptible MRSA – ‘vancomycin MIC creep’
 - Varies considerably worldwide
 - Results in clinical failure
- Risk of toxicity^{1,2}
 - Occurs with higher serum levels or prolonged treatment
 - Results in a need for monitoring and dose adjustment in some patient groups
- Slow bactericidal activity according to *in vitro* killing curves¹
- Low penetration into lung tissue¹
 - Associated with treatment failure

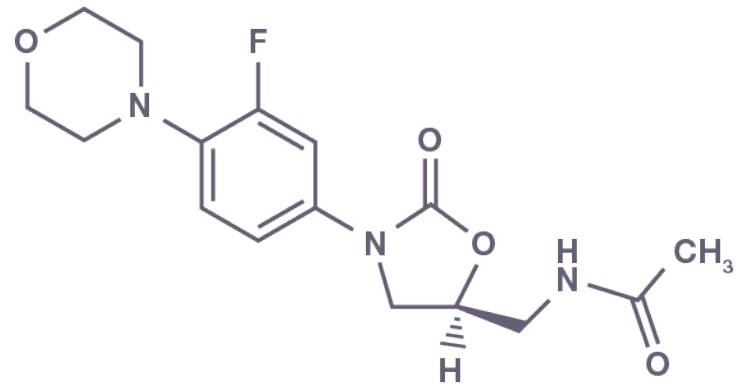


MIC, minimum inhibitory concentration.

1. Pletz MW *et al. Eur J Med Res* 2010; **15**: 507–13. 2. Vancomycin SmPC, 2012.

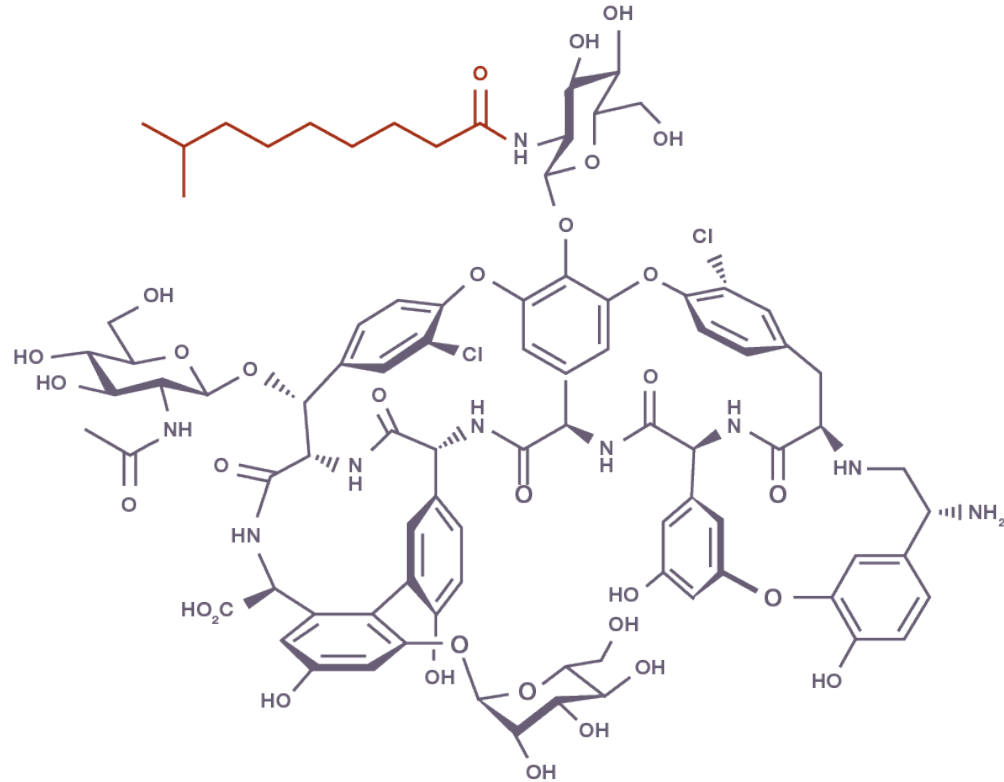
Potential limitations of linezolid¹

- Emerging resistance^{1,2}
 - Reduced vancomycin susceptibility is a predictor of the reduced susceptibility of *S. aureus* to linezolid^{1,2}
- Bacteriostatic³
 - Caution for use in immunocompromised patients⁴
- Risk of toxicity with prolonged treatment³
 - Maximum treatment period is 28 days⁴
- Multiple drug-drug interactions⁴
- Risk of myelosuppression (including anaemia, leucopenia, pancytopenia and thrombocytopenia)⁴
 - Requires weekly monitoring of blood counts⁴
- Contraindicated in patients on numerous concomitant medications (see SmPC), uncontrolled hypertension, phaeochromocytoma, carcinoid, thyrotoxicosis, bipolar depression, schizoaffective disorder, acute confusional states⁴
- Not licensed for primary bacteraemia⁴



Potential limitations of teicoplanin

- MRSA strains with reduced susceptibility or resistance¹
 - Reduced vancomycin susceptibility is a predictor of reduced susceptibility of *S. aureus* to teicoplanin²
- Higher MIC₉₀ for MRSA vs. televancin³
 - 4µg/ml vs. 1µg/ml
- Risk of toxicity⁴
 - Thrombocytopenia reported, especially at higher doses than those usually recommended
 - Should be used with care in conjunction with or sequentially with other drugs with known nephrotoxic or ototoxic potential



Potential considerations when choosing an antibiotic treatment for MRSA¹⁻⁴

Patient's clinical factors

- Elevated vancomycin MIC
- Immunocompromised
- High APACHE score
- Concurrent systemic concerns
- Rapidly deteriorating status

Patient history factors

- Recent exposure to vancomycin
- Previous MRSA infection
- Residency in a nursing home or long-term care facility
- Chronic illness
- Surgical procedure during current hospital stay

MRSA, methicillin-resistant *S. aureus*; MIC, minimum inhibitory concentration; APACHE, Acute Physiology & Chronic Health Evaluation.

1. Virk A *et al.* *Mayo Clin Proc* 2000; **75**: 200–14. 2. Dhand A & Sakoulas G. *F1000 Medicine Reports*, 2012; **4**: 4. 3. Holmes NE *et al.* *J Clin Microbiol* 2012; **50**: 2548–52.

4. Lodise TP *et al.* *Antimicrob Agents Chemother* 2008; **52**: 3315–20.