

Antimicrobial resistance among Victorian *Shigella* isolates

1 January to 31 December 2018

There were 207 culture-positive cases of shigellosis notified to the Victorian Government Department of Health and Human Services in 2018. Antimicrobial susceptibility data were available for 195 cases, as tested by the Microbiological Diagnostic Unit Public Health Laboratory (MDU PHL). The data were current as at 16 February 2019.

Key risk factors for shigellosis in Victoria include international travel and men who have sex with men (MSM). Risk factor data was available for all 195 cases.

Table 1: Antimicrobial resistance among *Shigella* isolates by species, 2018

Antibiotic(s)	All species N = 195*** (%)	<i>Shigella flexneri</i> n = 66 (%)	<i>Shigella sonnei</i> n = 119 (%)
Ampicillin	127 (65)	59 (89)	62 (52)
Azithromycin	78 (40)	24 (36)	54 (45)
Cefotaxime	15 (8)	2 (3)	12 (10)
Ciprofloxacin*	73 (37)	12 (18)	60 (15)
Co-trimoxazole	154 (79)	49 (74)	99 (83)
Ciprofloxacin and Azithromycin	39 (20)	2 (3)	37 (31)
Multi Drug Resistant**	93 (48)	31 (47)	61 (51)

* Includes both resistant and non-susceptible isolates

** Resistance to three or more of ampicillin, azithromycin, cefotaxime, ciprofloxacin and co-trimoxazole

***The 195 *Shigella* isolates comprised *S. sonnei* (119), *S. flexneri* (66), *S. boydii* (6), *S. dysenteriae* (3) and one *Shigella* genus not speciated.

Table 2: Antimicrobial resistance among *Shigella* isolates by risk factor, 2018

Antibiotic(s)	All cases N = 195 (%)	International travel n = 90 (%)	MSM n = 54 (%)	No known risk factor n = 27 (%)	Other ¹ n = 24 (%)
Ampicillin	127 (65)	38 (51)	51 (94)	20 (74)	18 (75)
Azithromycin	78 (40)	9 (10)	45 (83)	13 (48)	11 (46)
Cefotaxime	15 (8)	9 (10)	2 (4)	4 (15)	0
Ciprofloxacin ²	73 (37)	32 (36)	23 (43)	10 (37)	8 (33)
Co-trimoxazole	154 (79)	63 (70)	50 (93)	22 (81)	19 (79)
Ciprofloxacin and Azithromycin	39 (20)	6 (7)	23 (43)	5 (18)	5 (21)
Multi Drug Resistant ³	93 (48)	19 (21)	44 (81)	18 (67)	12 (50)

¹Other include contact with an ill case, travel within Australia and mixed travel/MSM

²Includes both resistant and non-susceptible isolates

³Resistance to three or more of ampicillin, azithromycin, cefotaxime, ciprofloxacin and co-trimoxazole

- *Shigella* infections which are resistant to oral antibiotics are common among MSM and returning travellers. Oral therapy should be tailored according to antimicrobial susceptibility testing. Therapy for severe cases of shigellosis should be discussed with an infectious disease specialist.

- If empirical antimicrobial treatment is required for MSM and overseas-acquired disease and susceptibility results are not yet available or if diagnosis was made by PCR testing only, current recommendations for these sources are:
 - Overseas travel – azithromycin
 - MSM – parenteral ceftriaxone or similar third generation cephalosporin.

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