Recommendations on aspects of management of shigellosis in Ireland in the context of current antimicrobial resistant *Shigella species* associated with gay, bisexual and men who have sex with men (gbMSM)

Version 1.1 **9th December 2024**

Key changes

Version	Date	Changes
Version1.1	9th December 2024	• The recommendation for the use of azithromycin in milder cases of laboratory confirmed shigellosis has been removed, as it is likely to be ineffective in almost 80% of cases. • Included advice for cases occurring in primary care, where hospitalisation is not required, and treatment is warranted, that it is generally appropriate to seek advice on treatment from the relevant Department of Microbiology • The text has been revised to clarify the role of other antimicrobial agents for therapy guided by antimicrobial susceptibility testing. • Technical background provided in the initial guidance July 2023 has been removed

1.0 Summary

Shigellosis is an acute diarrhoeal disease associated with species of the genus shigella. The severity of diarrhoea varies from mild to severe diarrhoea with blood and mucous in stools (dysentery). Shigella is shed in human faeces. Shedding persists for up to six weeks after diarrhoea resolves. Long term shedding is generally not a concern. Most cases are self-limiting. Some cases may develop blood stream infection or severe colonic disease. Severe illness is more likely in immunocompromised hosts. Effective antimicrobial treatment reduces the duration and severity of illness and reduces the duration of shedding.

The organism infects others when ingested. It is primarily spread through contact with infected faeces. Hands contaminated with faeces are likely to be important in spread. Spread can occur directly through personal contact including social contact in household, workplace or school setting. Sexual contact has emerged as a very important means of transmission in recent years particularly amongst gay bisexual and other men who have sex with men (gbMSM). Infection can also spread by indirect contact such as contaminated food or surfaces. Hand hygiene after using the toilet plays an important part in reducing spread.

There is evidence of spread of a number of clonal groups of *Shigella flexneri* and *Shigella sonnei* amongst gbMSM in Ireland. Some of these clonal groups are predicted to be resistant to multiple antibiotics including ceftriaxone, ciprofloxacin and azithromycin in addition to older agents.

A document to support clinical and laboratory practice in responding to this issue was first prepared and disseminated in June 2023. Following a review of the epidemiological and microbiological data in October 2024, it is apparent that azithromycin resistance determinants are now more common. In the most recent data 76% of shigella isolates from gbMSM have a resistance gene for azithromycin. In that context this document has now been updated to remove the recommendation for the use of azithromycin in milder cases of laboratory confirmed shigellosis as it is likely to be ineffective in almost 80% of cases.

The other recommendations, including the use of carbapenem in certain circumstances, as set out below remain. The text has also been revised to clarify the role of other antimicrobial agents for therapy guided by antimicrobial susceptibility testing. Technical background provided in the initial guidance is not included in this update.

2.0 Recommendations for clinical practice

1. Antimicrobial treatment is generally appropriate for patients with severe disease or who are immunocompromised. Treatment should be based on antimicrobial susceptibility testing when practical.
2. In cases occurring in primary care, where hospitalisation is not required, and treatment is warranted, it is generally appropriate to seek advice on treatment from the relevant Department of Microbiology

3. Adult male patients who require hospitalisation and are seriously ill with suspected shigellosis (clinical dysentery like illness) or with laboratory confirmed shigellosis should be treated with a carbapenem such as meropenem until there are laboratory results to guide the use of alternative agents. When laboratory results are available it may be appropriate to change from the carbapenem to one of the following agents based on susceptibility test results, amoxicillin, cotrimoxazole, ceftriaxone, azithromycin, fluoroquinolone.
4. Use of a carbapenem as initial empiric therapy may also be a consideration in all patients who require hospitalisation and are seriously ill with suspected or confirmed shigellosis acquired during travel outside of the EU as antimicrobial resistance is also a significant concern in some countries. As above, switch to an alternative agent may be appropriate when antimicrobial susceptibility test results are available.
5. At the present time, shigellosis in adult males acquired in Ireland appears very strongly associated with being gbMSM. It is important to establish if adult males presenting with shigellosis are gbMSM.
6. gbMSM with shigellosis in whom sexual transmission is the likely source of infection should be advised to avail of testing for *Chlamydia trachomatis*, *Neisseria gonorrhoeae* from rectal site, pharyngeal and genitourinary (first void urine) sites in addition to testing for syphilis, hepatitis C, HIV (where not known to be positive) and Hepatitis B (if not known to be immune).
7. gbMSM with shigellosis should be advised to avoid all sexual activity until at least 1 week after complete resolution of diarrhoea. They should be advised that shedding of shigella can persist for up to 6 weeks following resolution of diarrhoea.
8. Shigellosis is a notifiable disease. The local Medical Officer of Health should be notified of all cases of shigella. If the case is known to be gbMSM, this should be indicated at the time of notification. Public Health will arrange for completion of the shigella enhanced surveillance form, available on the HPSC website, and they may liaise with the clinician for further details on clinical symptoms, treatment and hospitalisation.

3.0 Suggestions for laboratory practice

- Following molecular detection of shigella in faeces, laboratories should make every practical attempt to isolate Shigella species as quickly as possible and perform susceptibility testing to a panel of antimicrobial agents appropriate to guide treatment. This is likely to include all or most of the following amoxicillin, cotrimoxazole, ceftriaxone (or cefotaxime), azithromycin, ciprofloxacin and meropenem.
- EUCAST does not provide breakpoints for susceptibility testing of Enterobacterales against Azithromycin but includes the following comment "*Azithromycin has been used in the treatment of enteric infections, primarily with Salmonella Typhi and Shigella species and although wild type distributions vary somewhat, isolates with MICs above 16 mg/L (azithromycin 15 µg disk zone diameters less than 12mm) are likely to have resistance mechanisms.*"

- In relation to detection of blaCTX-M producing isolates it may be helpful to culture samples on ESBL-Chromagar in addition to usual selective media for *Shigella species*.
- Send all shigella isolates to the National Reference Laboratory Service as soon as practical to do so.
- When notifying the isolate to the Department of Public Health, highlight if the organism is resistant to ceftriaxone, azithromycin or fluoroquinolones.

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This document was developed as part of the work of the Shigella in gbMSM Incident Management Team. The updated version has been reviewed by Public Health, clinical microbiologists, and members of the Infectious Disease Society of Ireland, and the Society for the Study of Sexually Transmitted Infections in Ireland.