

Agent's Biosafety Level: BSL2

Epidemic Potential: High

Last Update: 21 September 2018

| SURVEILLANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sample Collection                                  | Diagnosis                              |                            |
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| A definitive diagnosis of Shigella infection can only be made by isolating the organism from stool and serotyping the isolate. Culture is also required to determine antimicrobial sensitivity. Although sensitive molecular techniques to detect Shigella, such as PCR, have been developed, they are not yet practical for routine use and they do not permit determination of antimicrobial sensitivity. Methods to detect Shigella in food and in the environment are not yet standardized. | Stool or rectal swab, transport media (Cary-Blair) | Polymerase Chain Reaction (PCR)        | Culture                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                    | Several PCRs<br>Non-prequalified (NPQ) | Antiserum and AMS required |

Note: Many diagnostics supplies are also used for Case Management purposes, but have been included only in Surveillance.

| PREVENTION & CONTROL                                                                                                                                                                                                                                                                                                           | Vaccine | WASH                                                                                | Safe and dignified burial                                            |
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| Shigella are spread by direct contact with an infected person, or by eating contaminated food or drinking contaminated water. Flies may also transmit the organism. The low infective dose, as few as 200 viable organisms, facilitates person-to-person spread. Humans and a few primates are the only reservoir of Shigella. | R&D     | Safety of water sources (chlorination, filtration, etc.); household water treatment | Personal Protective Equipment (PPE) +<br>Disinfection supplies (IPC) |
|                                                                                                                                                                                                                                                                                                                                |         |                                                                                     | PPE Guidelines <a href="#">[LINK]</a>                                |

| CASE MANAGEMENT                                                                                                                                                                                                                                                                                                                                                                                            | Treatment                                                                                    |                          |
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| All cases of bloody diarrhoea should be treated promptly with an antimicrobial that is known to be effective against Shigella. This lessens the risk of complications and death, shortens the duration of symptoms, and hastens the elimination of Shigella from the stool. Other supportive measures used to treat acute diarrhoea, such as rehydration and zinc supplementation should also be provided. | Aetiological                                                                                 |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Ciprofloxacin + Zinc for pediatrics<br>[take local antimicrobial sensitivities into account] | Supportive<br><br>Fluids |

| Key outbreak control activities considered for material supply                                                                                                               |
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| <ul style="list-style-type: none"> <li>• <b>Aetiological treatment</b> to reduce mortality</li> <li>• <b>Supportive treatment</b> (hydration) to reduce mortality</li> </ul> |

Note: Products for Surveillance, Prevention & Control, and Case Management are undergoing rapid and continuous development and refinement. For greater clarity, please refer to most recent applicable WHO technical guidance.

| INTERVENTION | COMMODITY         | TECHNICAL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SURVEILLANCE | Sample Collection | Swabs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CultureSwab, Cary-Blair Agar, single swab                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|              |                   | Faeces collection container                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 125ml with screw cup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|              | Diagnostics       | Criteria for selection of specific diagnostic tests may include historical efficacy, adherence to any existing Target Product Profiles, ease of use, necessary throughput, distribution and logistics requirements, and manufacturer production capacity. For some pathogens, consideration may need to be given to the presence of mutations in targeted gene sequences or proteins. WHO can advise on the selection of tests on a case by case basis as determined by a specific event. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|              | WASH              | Safe Water Module                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Kit water tank, 5 m3, flexible 1 acc.2" DIN50</li> <li>• Water distribution module, 2 ramps x 6 taps</li> <li>• Hoses module, 2" DIN 50 + coupling</li> <li>• Tester, pool tester</li> <li>• Chlorine test tablets DPD1</li> <li>• Chlorine test tablets DPD3</li> <li>• Phenol red tablets for chlorine testing</li> <li>• NaDCC, granules, 1kg, 65 to 70% + dosage spoon (contingent upon necessary concentration levels)</li> </ul>                                                                     |
|              |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|              | IPC               | Chlorine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NaDCC, granules, 1kg, 65 to 70% + dosage spoon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|              |                   | Alcohol-based hand rub                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | bottle of 100ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|              |                   | Bar soap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|              |                   | Gloves, heavy duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Covering forearm. Fabric: cotton or polyester, rubber coating, waterproof, and acid resistant, minimum cuff length 150mm <ul style="list-style-type: none"> <li>• EU standard directive 89/686/EEC Category III,</li> <li>• EN 374 (AS/NZS 2161.10.1.2005) chemical resistance for AKL</li> <li>• EN 374 (AS/NZS 2161.10.1.2005) for biohazards Level 3 performance, or above</li> <li>• EN 388 (AS/NZS 2161.10.3.2005) 3111 for abrasion, blade cut, tear and puncture, or above</li> <li>• EN 420:2004+A1:2009 or equivalent, or above</li> </ul> |

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| PREVENTION & CONTROL | PPE Safe Burial Teams  | Face mask, particulate respirator, grade N95 or higher | Fluid resistant particulate respirator. Surgical N95 respirator or higher<br>High fluid resistance, Good breathability, Internal and external faces should be clearly identified, Structured design that does not collapse against the mouth (e.g. duckbill, cup-shaped)                                                                                                                                                                                                                          | "Surgical N95 respirator" cleared by the US FDA and NIOSH, or equivalent<br>• Fluid resistant surgical N95 respirator with minimum 80 mm Hg pressure based on ASTM F1862, ISO 22609 , or equivalent                                                                          |
|                      |                        | Goggles, protective                                    | Good seal with the skin of the face, Flexible PVC frame to easily fit with all face contours with even pressure, Enclose eyes and the surrounding areas, Accomodate wearers with prescription glasses, Clear plastic lens with fog and scratch resistant treatments, Adjustable band to secure firmly so as not to become loose during clinical activity, Indirect venting to avoid fogging, May be re-usable (provided appropriate arrangements for decontamination are in place) or disposable. | • EU standard directive 86/686/EEC, EN 166/2002,<br>• ANSI/ISEA Z87.1-2010, or equivalent                                                                                                                                                                                    |
|                      |                        | Coverall                                               | Single use, light colours preferable to better detect possible contamination, thumb/finger loops to anchor sleeves in place, good freedom of movement. Sizes: M, L, XL                                                                                                                                                                                                                                                                                                                            | • Option 1: blood and body fluid penetration resistant: meets or exceeds ISO 16603 class 3 or above exposure pressure, or equivalent<br>• Option 2: blood-borne pathogens penetration resistant:meets or exceeds ISO 16604 class 2 or above exposure pressure, or equivalent |
|                      |                        | Scrubs, tops                                           | Tunic/tops, woven, scrubs, reusable or single use, short sleeved (tunic/tops), worn underneath the coveralls or gown.                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                              |
|                      |                        | Scrubs, pants                                          | Trouser/pants, woven, scrubs, reusable or single use, short sleeved (tunic/tops), worn underneath the coveralls or gown                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                              |
|                      |                        | Apron, heavy duty, reusable                            | Straight apron with bib,<br>Fabric: 100% polyester with PVC coating, or 100% PVC, or 100% rubber, or other fluid resistant material, Waterproof, Sewn strap for neck and back fastening<br>Minimum basis weight: 300g/m2<br>covering size: 70-90 cm (width) X 120-150cm (height)<br>Reusable (provided appropriate arrangements for decontamination are in place)                                                                                                                                 | May comply with<br>• EN ISO 13688:2013<br>• EN 14126-B and partial body protection (EN 13034 or EN 14605) or equivalent                                                                                                                                                      |
|                      |                        | Boot, rubber                                           | Non-slip sole pattern, PVC or polyurethane sole which is completely sealed and waterproof, Knee-high in order be higher than the bottom edge of the gown, Range of sizes available to improve comfort and avoid trauma to the feet, Materials of construction include rubber, PVC, neoprene, nitrile, polyurethane, Favor light colours to better identify possible contaminations.                                                                                                               |                                                                                                                                                                                                                                                                              |
|                      |                        | Bio-hazardous bag                                      | Disposal bag for bio-hazardous waste, 30x50cm, with "Bio Hazard" print, autoclavable polypropylene. 50 or 70 micron thickness                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                              |
| CASE MANAGEMENT      | Aetiological Treatment | Ciprofloxacin                                          | Ciprofloxacin, 500mg tablets. On EML as a WATCH AB. First choice treatment for acute invasive bacterial diarrhoea / dysentery.                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                              |
|                      |                        | Zinc sulfate                                           | Zinc sulfate, 20mg, dispersible tablets                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                              |
|                      | Supportive Treatment   | Compound Sodium Lactate Solution                       | Compound solution of sodium lactate (Ringer's lactate), injection solution, w/o IV set and needle, 1000ml                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |
|                      |                        | Infusion giving set                                    | Infusion giving set, with airinlet and needle, sterile, single-use                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                              |
|                      |                        | ORS                                                    | ORS (oral rehydration salts), low osmolarity 20.5g, sachet for 1 litre                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                              |
|                      |                        |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                              |
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