Laboratory Protocol for Investigation of Faecal Specimens for Enteric Pathogens

When to send a faecal specimen:

- **In Community setting**: Acute diarrhoea: ≥3 episodes of loose stools a day, <14d and sample takes shape of pot
- **In Hospital setting**: ‘New’ or unexpected diarrhoea (defined as a single episode of Bristol stool chart types 5-7) that is clearly not attributable to an underlying condition e.g., overflow diarrhoea following laxatives / bowel preparation or therapy
- Diarrhoea and/or vomiting
- Diarrhoeal stool with characteristic “C. diff” smell and/or ↑Temperature and ↑WBC
- New-onset of Faecal incontinence
- When advised by health protection unit e.g., during outbreaks of diarrhoea in a family, community, residential or nursing home residents, investigation of contacts of a case of E. coli O157, diarrhoea in food handlers, healthcare workers, children after farm visits, or at nurseries etc.
- Persistent, chronic (>14 days), or recurrent diarrhoea

Specimen Requirements:

- A single stool specimen (1ml-2 g minimum) in a 50 ml ‘CE marked leak-proof’ universal container and labelled with 3 patient identifiers (as below), should be sent to the lab in a sealed specimen plastic bag with a (duly filled, as below) request form.
- ONLY diarrhoeal stool specimens (i.e., that take the shape of its container) will routinely be tested.
- Non-diarrhoeal stools may be tested for:
  - Rotavirus
  - Investigation of PUO e.g., Typhoid and Paratyphoid fever
  - Food handler or food poisoning ‘contact’ case on request of EHO as part of outbreak/incident investigation for specific enteric pathogens Salmonella spp., Shigella spp., Campylobacter spp., E.coli O157, coordinated by the community IP&CT and local (PHE) health protection team (HPT)
  - For ova/cysts and parasite (OCP):
    - However, for investigations other than Cryptosporidium spp. and Giardia spp. up to 3 specimens (5 ml each) 2-3 days apart, should be submitted stating clearly on the request form any travel history including name(s) of the countries visited
    - Sellotape slide is required for investigation of threadworm infestation
- A request form (electronic or paper) must include, as a minimum:
  - 3 patient identifiers:
    - Patient’s name: Surname, first name
    - NHS no.
    - Date of birth and Gender
  - Location: GP surgery/nursing or residential home/ward/ department and tel no./extension/bleep
  - Test(s) required: Please state if submitted at request of HPT, CCDC or EHO.
    - Stool (faecal) culture for enteric pathogens (c & S)
    - Stool microscopy for OCP, or Schistosomiasis
  - Date and time of specimen collection

Specimen Requirements continued on next page...
All relevant history and clinical information to help determine diagnostic methods such as:

- Clinical symptoms and signs: Systemic illness, fever, bloody stool, abdominal pain/tenderness
- Duration of s/s: acute (<14 days), chronic (> 2 weeks), or recurrent
- Immunosuppression, HIV positive etc.
- Food/water poisoning incidents e.g., barbecue; restaurant; eggs; chicken; shellfish
- Recent (≤ 6 weeks) foreign travel including countries visited
- Antimicrobial treatment (recent i.e., ≤ 6 weeks, current and intended) including drug regimen: agent, route, dose and frequency, duration of treatment
- Contact with other affected individuals or outbreak

All cases with an enteric pathogen(s) are reported to the PHE via automatic co-surv reporting system

### Testing Algorithm

**Diarrhoeal Stool**

- ≤ 6 years
  - CEP*
  - Rota virus
  - 2-6 y: *Clostridium difficile* (in <2 y if specifically requested with relevant clinical details)
  - *Cryptosporidium* spp. and *Giardia duodenalis*.

- > 6 years
  - Out-Patient
  - *Clostridium difficile* Cryptosporidium spp. and *Giardia duodenalis*
  - Hospital In-patient

**Additional tests:** Depending on specific clinical features/circumstances such as:

- **Norovirus:** During winter months or incident/outbreak investigations
- **Vibrio** spp.: Clinical Cholera, recent (2-3 weeks) travel to endemic area for *Vibrio* spp.: Asia, Africa, C&S America, or h/O seafood consumption
- **Yersinia enterocolitica:** If suspected appendicitis or mesenteric adenitis
- **Candida** spp.: As requested by the CMM
- Faecal concentrate for OCP:
  - Travel to Africa, Asia, C & S America
  - Persistent diarrhoea (>2 weeks)
  - Eosinophilia
  - Weight-loss
  - Failure to thrive
  - HIV Positive

*CEP: Conventional Enteric Pathogens: *Salmonella* spp., *Shigella* spp., *Campylobacter* spp., VTEC (Verocytotoxigenic *E. coli* incl.O157)
References:
2. UK SMI B30: Investigation of faecal specimens for enteric pathogens
3. UK SMI B 31: Investigation of specimens other than blood for parasites
4. UK SMI B 10: Lab investigation of faeces for Clostridium difficile
5. UK SMI S 7: Gastroenteritis and diarrhoea