These “good practice” recommendations, if followed and sustained, will result in a significant reduction in the burden of Clostridium difficile (CD) within NHS Trusts and enhance patient safety.

No single measure will be sufficient to avert an outbreak and ALL 5 MEASURES (Steps 1-5) need to be implemented 100% of the time to achieve control of this preventable infection, maintain patient confidence and protect the hospital reputation.

### THE CARE BUNDLE
- Prudent antibiotic prescribing
- Isolation of infected patients
- Enhanced environmental cleaning
- Hand hygiene
- Personal protective equipment
- Staff education and training

#### Groups at Risk
- Older patients
- Severity of underlying disease
- Non surgical gastrointestinal procedures
- Presence of nasogastric tube
- Anti-ulcer medications
- Stay on Intensive Care Unit
- Duration of hospital stay
- Duration of antibiotic course
- Administration of multiple antibiotics or multiple courses

#### Clinical symptoms
- asymptomatic
- watery diarrhoea
- fever
- loss of appetite
- nausea
- abdominal pain/tenderness
- stool smell/green appearance

#### Complications
- relapse diarrhoea
- pseudomembranous colitis
- toxic megacolon
- perforations of the colon
- sepsis
- death

### Patient monitoring and Treatments
- Early diagnosis and treatment will prevent complications and save lives
- HCW must have heightened awareness – could this be Clostridium difficile associated diarrhoea (CDAD)?
- HCW must quickly identify deterioration in the patient’s clinical condition
- Stop all unnecessary antibiotics
- If CD diagnosed treat with Metronidazole or Vancomycin
- Monitor fluid balance: Correct dehydration due to diarrhoea
- Monitor diarrhoea: Stool chart
- Monitor signs of deterioration: rising CRP, falling albumin levels, rising WBC, pyrexia
- Ensure kidney function maintained, prevent renal failure
- Assessment for colectomy: Involve specialists (Gastroenterologist and Surgeon) early
  - (A patient care pathway may help)

### Specimens/Diagnosis
- Early diagnosis prevents complications and saves lives
- Stool samples should be taken and tested within 18 hours of onset of symptoms or admission of a symptomatic patient
- Toxin detection by Enzyme Immuno Assay (EIA)
- Colonic appearance
- Biopsy – histological appearance
- Radiological appearance

### Surveillance
- Early detection and control saves lives
- Active surveillance is required for rapid detection and intervention – Target specialties with high rates
- CDAD is preventable and there is not an acceptable level, however the following approach should maintain patient confidence and the hospital’s reputation
- Take action at: >3 cases a month or 0.5/1000 bed days
- Implement full action plan at: 5-10 cases a month or >0.5/1000 bed days
- Outbreaks must be reported as a Serious Untoward Incident (SUI)
- Deaths associated with CDAD must be categorised as attributable or contributory and adequately recorded on the death certificate
  - (A statistical process chart may help monitoring)

### Transmission
- Early isolation prevents spread
- Patient to patient spread
- Spread by healthcare workers
- Spread in the environment

### Opportunities and Costs
- Early action - more savings
- Increased length of stay – 21 days
- Cost £4000 per case
- Patient experience – satisfaction - outcome
- Enhanced patient confidence and hospital reputation

### Step 1
- Good antibiotic prescribing
- Use minimum duration
- Avoid using broad spectrum antibiotics unless there is a good clinical need (especially extended spectrum cephalosporins and fluoroquinolones)
- Restrict prescription of IV antibiotics
- Use stop dates & one dose prophylaxis
- Ensure an antibiotic pharmacist is employed
- Monitor antibiotic usage per speciality

### Step 2
- Early isolation of infected patient
- All infected patients must be nursed in a side room
- Serious consideration must be given to cohort nursing or opening an isolation ward if cases exceed side room isolation capacity
  - (In these circumstances a discharge policy will help - and a dedicated consultant for the ward ensures best delivery of care)

### Step 3
- Enhanced environmental cleaning
- Additional cleaning using chlorine based disinfectant
- Ensuring patient equipment adequately cleaned and stored eg commodes

### Step 4
- Reinforce hand washing/hygiene
  - (alcohol gel does not kill spores)

### Step 5
- Encourage personal protective equipment use

ACKNOWLEDGEMENTS: The Department of Health, Professor Brian Duerden, Professor Mark Wilcox and Dr Giuseppe Bignardi for the material used to prepare this document.