**Supplemental Digital Content 1 - Flow chart of sample analysis:**

**NB:** All C. difficile positive samples of sufficient volume were selected for subsampling. These were age-matched. Sex and co-morbidity status were also consistent with demographics seen in the total study population.

Retrospective samples

(n=150)

Prospective samples

(n=50)

Following removal of duplicates

(n=196)

Underwent culture and lateral flow testing (n=196):

Culture negative (n=164)

Non-toxigenic carrier (n=13)

Toxigenic carrier (n=19)

Underwent faecal cytokine / ELISA testing (n=72):

Age matched culture negative (n=42)

Non-toxigenic carrier (n=12)

Toxigenic carrier (n=18)

Underwent Luminex GPP testing (n=59):

Age matched culture negative (n=30)

Non-toxigenic carrier (n=12)

Toxigenic carrier (n=17)

Underwent 16s sequencing (n=59)

Sufficient reads for analysis (n=42):

Age matched culture negative (n=18)

Non-toxigenic carrier (n=9)

Toxigenic carrier (n=15)