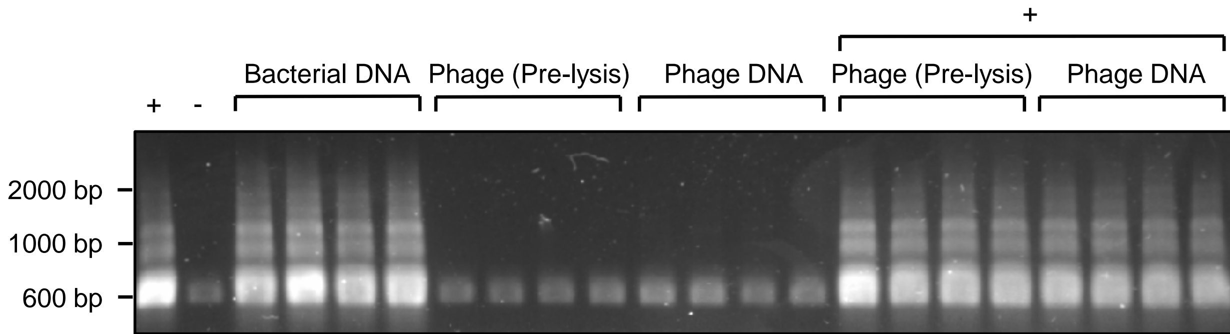


**Figure S1. Checking phage particles and phage DNA for bacterial contamination.** The presence of bacterial *rrnS* DNA was assessed using conventional PCR with primers described in Table 1 in the main text. PCR was carried out for 30 cycles using GoTaq Flexi reagents. Purified bacterial DNA was used as a positive control (+) and deionized water was used as a negative control (-). Reactions were carried out on 4 independent preparations from soil, during multiple stages of the extraction procedure described in Materials and Methods: 'Bacterial DNA' (after the full procedure, including ethanol precipitation); 'Phage' particles (after Turbo DNase treatment but before proteinase K lysis); 'Phage DNA' (after the full procedure, including ethanol precipitation). To ensure that the lack of amplification from phage particles or phage DNA was not simply due to the presence of PCR inhibitors, these reactions were also performed in the presence of the same DNA used for the positive control (+).

Control (no drug in plates) | Selective plates

Drug concentration during inc: 0 1:100 1:10 1 | 0 1:100 1:10 1

Phage Only

AMP - +

TET - +

CHL - +

STR - +

AZT - +

CAX - +

FOX - +

MEM - +

CIP - +

SMZ - +

**Figure S2. Screening for transduction of soil-derived bacteria by biosolids-derived phage in the presence of antibiotic selection.**
The transduction experiment was set up as described in Materials and Methods in the main text, except that the tubes containing 5 mL of soil-derived slurry (with or without phage) were incubated for 1 hour at 30°C before aliquoting 150 uL into the wells of a microtiter plate and adding each antibiotic (separately) for the final concentrations indicated above each column: 1 = breakpoint concentration (see Materials and Methods in the main text), 1:10 = 10-fold below breakpoint, 1:100 = 100-fold below breakpoint, 0 = no antibiotic during incubation. 'Phage only' controls were also included, and always yielded no growth (as represented by the top right panel). After 2 days at 30°C, 10 µL were spotted onto Chromocult plates containing breakpoint concentrations of the corresponding antibiotics (**right** panels). To ensure any differences between samples were not due to gross differences in the number of total coliform bacteria spotted, the samples were also spotted onto Chromocult plates lacking antibiotics (**left** panels). Note that only coliforms (pink colonies) were considered in this assay. Each panel contains two rows, representing independent replicates from two independent preparations of phage. At the left of each row, the absence or presence of phage during the incubation is indicated by (-) and (+), respectively. The antibiotics used during incubation are indicated to the left of each grouping: Ampicillin (AMP, 32 µg/mL); tetracycline (TET, 16 µg/mL); chloramphenicol (CHL, 32 µg/mL); streptomycin (STR, 64 µg/mL); azithromycin (AZT, 8 µg/mL); cefotaxin (CAX, 4 µg/mL); cefoxitin (FOX, 32 µg/mL); meropenem (MEM, 4 µg/mL); ciprofloxacin (CIP, 4 µg/mL); sulfamethazine (SMZ, 512 µg/mL).