

## Assessing cross-laboratory performance for quantifying coliphage using EPA Method 1642

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### ABSTRACT

**Aims:** Widespread adoption of the new U.S. Environmental Protection Agency (USEPA) Method 1642 for enumeration of coliphage in recreational water requires demonstration that laboratories consistently meet internal method performance goals and yield results that are consistent across laboratories.

**Methods and Results:** Here we assess the performance of six laboratories processing a series of blind wastewater-and coliphage-spiked samples along with laboratory blanks. All laboratories met the method-defined recovery requirements when performance was averaged across samples, with the few failures on individual samples mostly occurring for less-experienced laboratories on the initial samples processed. Failures that occurred on later samples were generally attributed to easily correctable activities. Failure rates were higher for somatic vs. F+ coliphage, attributable to the more stringent performance criteria associated with somatic coliphage. There was no difference in failure rate between samples prepared in a marine water matrix compared to that in phosphate-buffered saline.

**Conclusions:** Variation among laboratories was similar to that previously reported for enterococci, the current bacterial indicator used for evaluating beach water quality for public health protection.

**Significance and Impact of the Study:** These findings suggest that laboratory performance is not an inhibitor to the adoption of coliphage as a new indicator for assessing recreational health risk.

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