An analysis of microbiology results within medicine, and the perception of microbiology results
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Background
There are no published reports of microbiology sample collection and yield on sequential patients through an acute medical take, or on the perception of yield. The gold standard of collection is 3 blood cultures within 24 hours.

Aim
Investigate microbiology sample collection, yield and perception of yield.

Method
• An audit of the electronic patient records of all patients admitted over a two week period at a London teaching hospital. Details of microbiology samples for the entire hospital stay was collected.
• A questionnaire to assess perception of yield was administered to medical and surgical colleagues.
• Actual and perception of yield were compared.

Results
• There were 361 patients with 2800 bed days. 90 patients had blood cultures on admission, of which, 11 had 2 blood cultures and 1 had 3 blood cultures within 24 hours.
• The yield of microbiology samples was poor: blood (12.2%), urine (25%), stool (0%) (%). All pneumococcal and legionella tests were negative.
• The yield of blood cultures was similar on admission or after 24 hours. Urine cultures within the first 24 hours had greater yield.
• 67 clinicians responded to the questionnaire. The perception of yield was higher than actual. The discrepancy was: 24, 15, 17 % respectively for blood, urine and stool cultures.
• The perceived change in management following culture results was low. The perceived costs of blood culture were five fold higher than actual.

Conclusions
• Adherence to the Gold standard of 3 Blood cultures within 24 hours of admission was poor.
• Implementation of guidelines for sample collection may improve the yield and improve patient management.
• Feedback on yield may help change clinical practice. The timing of stool and urine cultures may cause the skew towards poor yield.