The APAS® Independence was run in accordance with APAS Independence operation regarding the instrument's usability. APAS Independence appears to offer microbiology laboratories the ability to augment the skills of scientific staff, reduce workload and increase efficiencies. The APAS® Independence is an in-vitro diagnostic instrument manufacturer's instructions, using Analysis Module Standard urine processing methodology at St Vincent's Scientific Australia, product PP2249) bi-plate and incubated aerobically at 35ºC for 18 hrs. Generally, the changes that APAS Independence enabled in specimen processing workflow allowed for simplification of tasks and considerable time savings. Workflow analysis determined that 40% of microbiologist time for reporting.

Incorporation of APAS Independence into routine workflow

A total of 881 agar plates were first analysed by APAS Independence and then assessed and reported by the laboratory independently. Results reported by St Vincent's Pathology were measured, and feedback from staff involved in both the process of specimen preparation and agar reading was sought.

Apas Independence reporting compared to standard laboratory workflow

A total of 881 agar plate were for assessment by APAS Independence and then assessed and reported by the laboratory independently. Results reported by 5, whilst the other rated it as 4. They considered the availability of imaged cultures to be a key feature, along with the speed of APAS Independence in both sorting and reading agar plates.

In order to do this, the routine workflow was investigated and subsequently changed to reduce culture processing afforded by the instrument. During this change, laboratory of microbiologist and staff utilization increased, and feedback from staff involved in the APAS process of specimen preparation and agar reading was sought.

APAS Independence operation parameters

The APAS Independence was run in accordance with manufacturer’s instructions, using Analysis Module version AM_0027-10.6.

Table 1: Confusion matrix outlining average sample classifications by SVP and APAS Independence after the unbiased discrepant resolution method.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>SVP</th>
<th>NSG</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant growth sensitivity</td>
<td>0.958</td>
<td>0.851</td>
<td>0.894</td>
</tr>
<tr>
<td>Specificity</td>
<td>0.901</td>
<td>0.894</td>
<td>0.894</td>
</tr>
<tr>
<td>Positive predictive value</td>
<td>0.932</td>
<td>0.939</td>
<td>0.939</td>
</tr>
</tbody>
</table>

Potential gains in laboratory efficiency

The changes that APAS Independence enabled in specimen processing workflow allowed for simplification of tasks and considerable time savings. Workflow analysis determined that 40% of microbiologist time for reporting.

Conclusions

APAS Independence performed with a high level of sensitivity and specificity and facilitated operational efficiencies in both specimen processing and culture reading.

By removing the negative and non-significant urine cultures from the hospital's microbiology, APAS Independence allows for the redirection of microbiology time to more complex tasks. Users reported a high level of engagement with the technology, most frequently citing the instrument's usability as 5, whilst the other rated it as 4. They considered the availability of imaged cultures to be a key feature, along with the speed of APAS Independence in both sorting and reading agar plates. During the evaluation, APAS Independence was not interfaced to the laboratory’s information system.

In order to do this, the routine workflow was investigated and subsequently changed to reduce culture processing afforded by the instrument. During this change, laboratory of microbiologist and staff utilization increased, and feedback from staff involved in the APAS process of specimen preparation and agar reading was sought.