Evaluation of the new Version 2 Influenza A&B test on the Abbott ID Now platform at the Royal Derby Hospital

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Introduction

Over the last winter period (2018/19) there was an influx of reports regarding emerging cases of seasonal influenza which usually arises between December and March. The annual change in temperature caused high intensity flu cases which led to the implementation of near patient Influenza A&B testing using the Abbott ID Now version 2. The ID NOW was introduced in Emergency Department (ED) and Medical Assessment Unit (MAU) as a pilot study. The unique molecular in vitro platform allows rapid and accurate qualitative detection of flu A & B as opposed to conventional testing. ID NOW is associated with high sensitivity and specificity which provide reliable results using nasopharyngeal swabs in VTM. Isothermal nucleic acid amplification enables the detection by using primers to allow specific amplification of RNA of virus which is further detected via fluorescence. Furthermore, the fast turn around time aided immediate and effective treatment options, this was also observed in a recent prospective study which showed substantial benefits of POCT (Figure 1).

Method

Throat/nasal swab samples from patients presenting with flu symptoms were tested for Influenza A&B using the POCT ID NOW. The procedure was followed as explained below.

Results

During the flu season (2018/19) a total of 1552 POCT tests performed in ED/MAU (compared to 812 Lab RT-PCRs the previous season) demonstrating a significant increase in testing at the patient bedside.

927 positive influenza results were issued by the laboratory, from which 316 (34%) were established using POCT ID NOW instrument (Table 1).

Table 1: Overview of results obtained during flu season (2018/19) using POCT ID NOW instrument.

<table>
<thead>
<tr>
<th></th>
<th>Muriel</th>
<th>Rebecca</th>
<th>Edward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flu A</td>
<td>316</td>
<td>153</td>
<td>74</td>
</tr>
<tr>
<td>Flu B</td>
<td>21</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Flu A &amp; B</td>
<td>89</td>
<td>43</td>
<td>19</td>
</tr>
</tbody>
</table>

Overall, 950 patients were admitted, and 460 patients discharged (33%). The main areas of discharged patients included ED triage (61%), ED resus (45%) and MAU (18%) (Figure 2).

Conclusion

Conclusively, the use of ID NOW demonstrated fast turn-around time/results enabling efficient discharge of patients without inappropriate isolation from acute care, leading to commencement of treatment plans and IPC precautions. Ultimately, contributing towards cost savings for the NHS.

Future plans?

- Deploy POCT earlier on by starting an early business case to avoid last minute training!!
- Focus on training early- 4-6 weeks prior to the season starting
- Review and update SOPs/ algorithms annually
- Resolve IT connectivity and functionality issues –ensure you can interface your instrument
- Work collaboratively- ensure your POCT Team, ICNs and Laboratory Teams all plan together
- Verify all new versions prior to clinical deployment to avoid reporting errors

Keywords: Influenza, ID NOW, Point of care testing, Emergency department, Medical Assessment Unit.

References
