

Do Point of Care Tests for Influenza & RSV Work? Four Years of Data

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Background:

External quality assurance (EQA) is critical to ensure diagnostic assays are producing accurate and reliable results. The Royal College of Pathologists of Australasia Quality Assurance Programs (RCPAQAP) developed a program for the rapid molecular PoC testing of influenza A & B and RSV to support molecular-based point of care (PoC) assays targeting respiratory viruses. This EQA program was first offered in 2019.

Methods:

The proficiency testing (PT) program contained three surveys per year, each with four specimens. The PT panel consisted of inactivated influenza A & B strains and RSV types at concentrations suitable for rapid molecular testing. The material was suspended in buffered saline solution to simulate a respiratory sample. The data obtained between 2019-2022 was analysed with trends identified in participation, assay usage, values reported, and data interpretation.

Results:

Comparing the first survey in 2019 and the latest survey in 2022 revealed a 3.3-fold increase in participation (87 to 290) and a 2.5-fold increase in the number of assays (6 to 16) used for molecular influenza/RSV PoC testing. Across the 12 surveys issued over the four years, results were 98-100% concordant, with discordant results often attributed to transcription errors or sample reversal. Reported Ct values were consistent within assay user groups. Over the last two years, two samples containing SARS-CoV-2 were included, and 99% of participants determined that these samples did not contain influenza virus or RSV. However, four participants identified these samples to contain influenza virus.

Conclusion:

The increasing participation and number of assays in this program suggest that routine PoC testing for influenza/RSV is increasing. Participants' overall performance was excellent, providing confidence in the results produced by these PoC assays. The RCPAQAP will continue to develop this EQA program to support new PoC assays. Including SARS-CoV-2 in future surveys will support PoC-based testing for these emerging respiratory viruses.