Conclusions

- The discrepancy between positivity rates in primary care and hospitalized patients was surprising. However, primary care patients were mostly young adults while hospitalized cases were in the oldest age groups. Senior adults may be more likely to be hospitalized for respiratory symptoms with an etiology caused by conditions other than infectious diseases.

- The 18-25 age cohort was comprised mostly of college students which had much higher coinfection rates than the older age cohorts. Living in a dormitory setting may result in an increased chance of being exposed to multiple pathogens.

- The low occurrence of adenovirus, enterovirus and parainfluenza virus infections compared to coronaviruses was surprising. Coronavirus appear to circulate during respiratory season at a high level in association with symptomatic disease, even though they may often go undetected due to the capabilities of many routinely used diagnostic assays.

- 3 of the 5 enterovirus positive samples were coincident with a high titer rhinovirus. These rhinoviruses are likely cross-reacting in the enterovirus assay.

- All 4 influenza positive specimens had high CT values, indicating a low viral load in the specimen. Viral load near the limit of detection for the influenza real-time RT-PCR assay may explain why the initial influenza testing was reported as negative.

- 66 samples required repeat testing due to either high CT values or a positive result detected initially in only one replicate. Among these samples, 34 generated subsequent positive results in at least one well and were considered positive for the target. Samples that were negative upon repeat testing were considered negative.

- Overall, the TAC platform performed extremely well for this type of analysis. Previous studies have demonstrated good sensitivity, specificity and reproducibility profiles for the system and the additional data from this study supports its use for broad respiratory disease surveillance.

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References
