CONCLUSIONS

Age harsher flu season experienced in 2017-2018 by balancing the workload of care for the Geisinger community allowed us to better respond to the stewardship for future flu seasons. The 2016 launch of FluWorks as standard and antiviral prescriptions and presents an opportunity for antibacterial potential antiviral savings to $186K/season.

molecular technology, geographically close to patients, has an impact on flu season challenges as should impact patient and provider satisfaction.

In 2017, after that date samples were transported by couriers to our core laboratory (Feb 25th to Apr 25th, 2017). Testing on site occurred from Nov 1st, 2016 to Jan 19th, 2017.

The FluWorks program was launched during the 2016-2017 flu season. Given the limitations in space in our RRLs, dead-air boxes were designed and crafted by our facilities team. Doctoral staff and specialists from our core laboratory trained the RRL personnel on the basics of molecular testing, decontamination procedures, and amplicon control. Personnel from Cepheid trained the staff on the use of the Xpert cartridges. Method verification was performed using Zeptronics controls (Buffalo, NY) tested for 20 days.

Competency of the personnel was assessed with previously characterized blinded samples. Testing on site occurred from Nov 1st, 2016 to Jan 19th, 2017. When testing was performed on site vs 16.4% for samples transported by courier. During on-site testing, the collect-to-result time (CTR) was reduced by 70% using the Xpert® Flu/RSV VC cartridges, which provided results in 25 minutes (p < 0.0001) with median CTR of 6.9 h for on-site vs 1.3 h for off-site). Overall, a decrease in collect to result time (CTR) had no impact on antimicrobial prescription. Antimicrobial prescription, 

Antimicrobial prescription was calculated to be $75K for the '16-'17 season. Of note, the test was negative or no Tamiflu was prescribed. Antimicrobial prescription, however, the sample set was disproportionately skewed to age < 5y. A potential bias was documented for children < 5y.

During the test period, 311 patients could have avoided antiviral therapy for potential savings of ~$75K and return on investment (ROI) of 3.3y. Opportunities for antibiotic stewardship and associated recovered costs remain despite on-site testing.

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Cepheid personnel trained RRL staff on testing procedures. No contamination events were observed throughout the study. Standardization across all sites allowed for rapid 20 d verification of both Xpert® XC and Xpert® Xpress cartridges, with ~96% precision. Competency samples (known samples tested with Biofire FilmArray Respiratory panel) were tested at all operators; personnel were blinded to previous results.

100% concordance for competency samples was observed.