ABSTRACT

Objective: Neither the private (Diagnostic Laboratory Services, Inc.) nor the public (Guam Department of Public Health and Social Services) laboratory systems had sufficient resources to serve their patients, so a public-private partnership was proposed, implemented, and assessed in which the public component (GDPHSS) provides analytical infrastructure and the private component (DLS) provides consumables, pre-analytic, post-analytic components. Additionally, DLS provided consumables to GDPHSS as compensation for their contribution.

Study Design: Guam medical providers and public health disease controllers both have the need for rapid molecular tuberculosis testing in Guam. A mutually beneficial Memorandum of Agreement (MOA) was proposed, coordinated, and executed that leveraged public health laboratory infrastructure with private resources for collection, transport, consumables, and results delivery. Measurements to indicate improvement to services were designed for both parties. The DLS monitor was in turn-around-time and the GDPHSS monitor was increase in test capacity.

Results: Turn-around-time for DLS-Guam clients was significantly reduced because specimens no longer needed to be flown to Hawaii for testing. Testing capacity for GDPHSS laboratory to serve public health clients significantly increased because of the additional consumables provided by DLS as compensation for the use of their instrumentation and testing expertise.

CONCLUSIONS

2. QC requirements at GDPHSS required additional cartridges that were not originally anticipated, which may be able to be reduced with further IQCP modification.

3. The GDPHSS Lab is only staffed 5 days a week, so there can be a delay on weekends. This could be shortened if late Friday specimens are sent to DLS-Hawaii to be performed on the weekend. This would have coincided if testing was performed in Hawaii. Testing capacity for GDPHSS laboratory to serve public health clients increased 19.6% because of the additional consumables provided by DLS as compensation for the use of their instrumentation and testing expertise.

RESULTS

Figure 2 shows data relative to the implementation of a IQCP at the GDPHSS Lab. DLS shared the template for an Individualized QC Plan (IQCP), which was modified and implemented in October 2018. Implementation decreased frequency of QC from 3 times per week to monthly, and reduced costs of cartridges used for QC, which made daily testing financially feasible. The impact on internal TAT and capacity is shown in Figure 1. Capacity over a 4 month period before and after implementation increased from 43 tests performed to 91, of which 45 were DLS specimens. As a result of performing those DLS specimens, GDPHSS Lab received 9 cartridges, which was used to cover 19.6% of their testing (9/46). Average TAT in Guam never exceeded 24 hours (median of 24), and often results were available the same day specimen was received. This compares to the average TAT of 69.8 hours (median of 48.2; n=119) during the same time when the test was performed in Hawaii (data not shown).

The overall reduction in average TAT for DLS-Guam clients was 69.6% ([69.8-24]/69.8) X 100, largely because specimens no longer needed to be flown to Hawaii for testing. When specimens are sent and tested at GPHL on the same day of collection, results are available 2 days sooner than they would have been if testing was performed in Hawaii. Testing capacity for GDPHSS laboratory to serve public health clients increased 19.6% because of the additional consumables provided by DLS as compensation for the use of their instrumentation and testing expertise.