

## Molecular Genetics, Genomics, Mechanisms of Diseases

## AB117. Rearranging workflow to improve turn-around time for genetic testing: doing more with less

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**Background:** Demand for genetic testing continues to rise. In an environment of cost containment, the four physically separate laboratories that offer molecular genetic testing in our service continue to see an increase in test requests of between 15% to 20% per year, with little or no capacity to increase staffing. In the contemporary model, all requests for cascade testing of at risk family members, as well as variant confirmation and family segregation studies following next generation sequencing have been performed by the “parent” laboratory responsible for the original test, with turnaround times of up to 16 weeks.

**Methods:** All requests for cascade testing, variant

confirmation and family segregation were internally centralized to a single laboratory which had access to robotic equipment. A standardized modular work flow was developed to replace the “specific case” model.

**Results:** In the first month of centralization, 145 Sanger sequencing tests were performed. Turnaround times for this new service were reduced to a median of 14 (range 4–33) days. In the subsequent 3 months, further development of procedures reduced turnaround times to a median of 8 (range 3–17) days.

**Conclusions:** Designing new workflows to work smarter, rather than harder, has resulted in improved turnaround times despite an increased number of test requests. We continue to look at ways to streamline testing despite a geographically dispersed physical laboratory structure.

**Keywords:** Modular workflow; cascade testing; automation; centralization

doi: 10.21037/atm.2017.s117

**Cite this abstract as:** Bain S, Fletcher JM, Hall R, Grist S. Rearranging workflow to improve turn-around time for genetic testing: doing more with less. *Ann Transl Med* 2017;5(Suppl 2):AB117. doi: 10.21037/atm.2017.s117