

I. Introduction

As the complexity of genetic testing options increases, there is a demand for genetic counseling in the obstetric setting. The increased demand has put a stress on an already limited resource of genetic counselors. To accommodate this volume, we instituted a triage approach for patients seen in a large obstetrics practice, categorizing them into two groups: patients requiring comprehensive genetic counseling and patients that could be best served with a results-targeted discussion.

II. Objectives

The objective of this study was to evaluate whether a triage approach would result in a more efficient use of the counselors' time both in the length of the sessions and on the creation of the final genetic counseling reports.

III. Methods

Prior to the appointment, patient records were reviewed to determine which service was indicated. Patients who had previously undergone maternal serum screening and ethnicity screening and had no significant family history, exposures, or ultrasound abnormalities were triaged for a results-targeted discussion. These patients had a discussion focused on reviewing their genetic test results and were offered the option of diagnostic testing per ACOG Practice Bulletin Number 77, January 2007 recommendations. Any patients with ultrasound findings, teratogenic exposures, significant family history identified on the genetic questionnaire, and/or patients who had not previously had ethnicity screening or aneuploidy screening were scheduled for comprehensive genetic counseling. Comprehensive genetic counseling included the completion of a 3 generation pedigree, risk assessment, and discussion of available and appropriate genetic screening and testing options.

The data on the time spent per patient were evaluated with several statistical methods. Counseling session time data from both groups followed a normal distribution curve and the independent group variances were similar ($F=2.94$, 1 and 369 df, p -value >0.05). A two sample, two-sided modified t-test was used for comparative analysis. Reporting time data from both groups were not normally distributed, necessitating a nonparametric testing method. The two independent groups' data were analyzed with the Wilcoxon Rank Sum Test to compare median reporting time. A two sample, one-sided Wilcoxon Rank Sum Test was used for comparative analysis via R computational analysis.

IV. Results

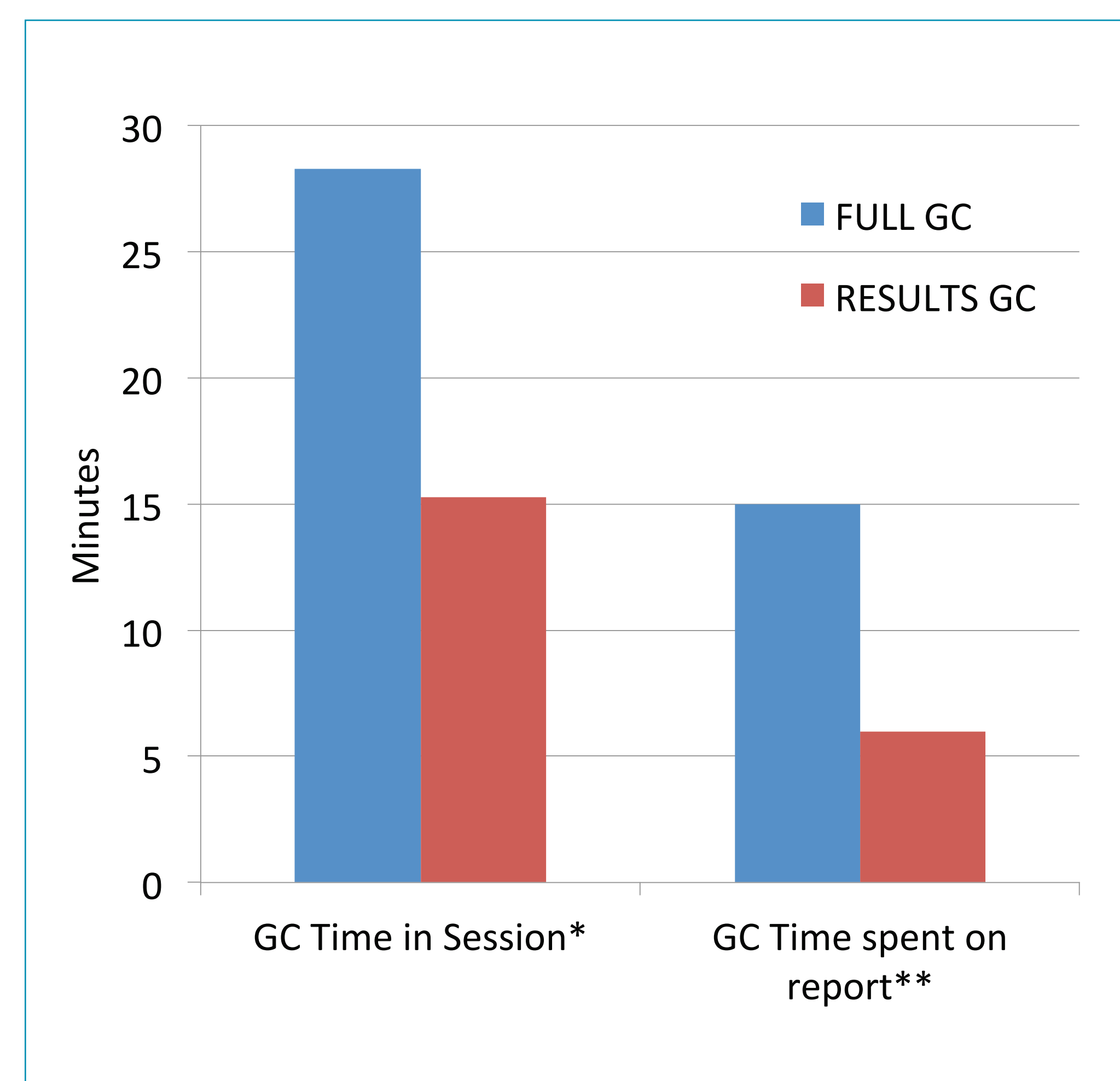
The time spent on the genetic counseling session and any follow-up documentation was examined. Of the 371 patient sessions studied, 147 patients received comprehensive genetic counseling while 224 patients received results-targeted counseling. On average, the results-targeted sessions were 46% shorter. Using the two sample, two-sided modified t-test for comparative analysis, this difference was statistically significant with a p -value <0.001 ($t=13.65$, $df=211$, p -value <0.001). The targeted sessions took 51% less time to complete the genetic counseling report, which was also statistically significant with a p -value <0.001 (Wilcoxon Rank Sum Test $W=28436$, p -value <0.001 (see **Table 1** and **Figures 1 and 2**).

Over any given day, this time savings resulted in a more streamlined, efficient day for the patients, the staff at the clinic, and the genetic counselors. Feedback from the nurses, genetic counselors, and clinicians has been positive. Anecdotal feedback from clinicians indicates that the patients' needs were met and that patients expressed satisfaction to the physicians after the sessions.

Table 1. Minutes spent in GC session and on GC report

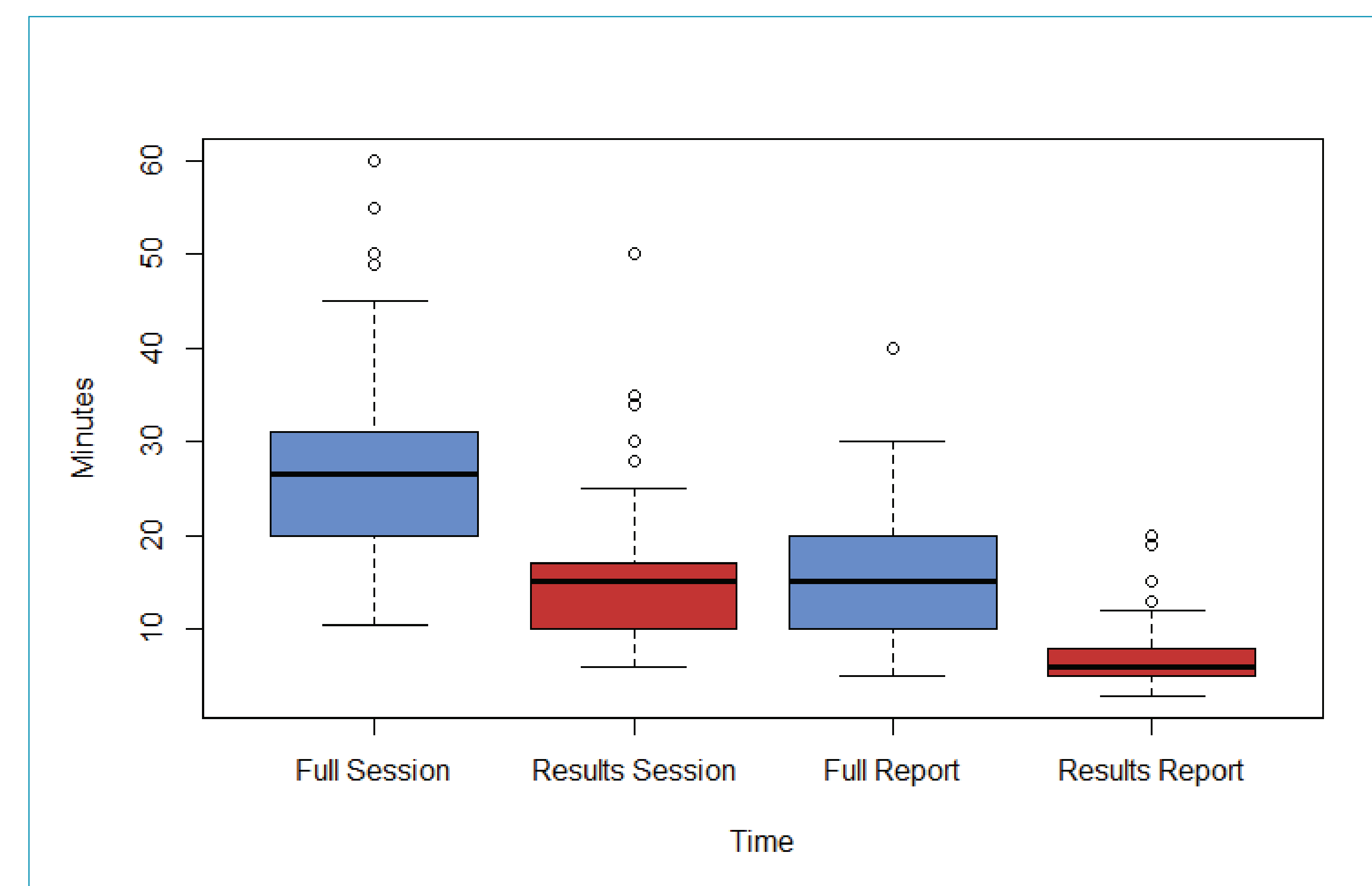
	GC Time in Session*	GC Time spent on report**	Number of Patients
Full GC	28.28	15	147
Results GC	15.25	6	224
% Less Time	46%	60%	

Figure 1. Single Metric Comparison of Time Spent in GC Session and on GC Report



*based on means **based on medians

Figure 2. Multiple metric comparison of time spent in GC session and on GC report



V. Conclusion

A triage approach is one option for providing access to genetic counselors while tailoring the level of interaction to the patients' needs. From a time management standpoint, this has been a successful approach to managing a very busy primary obstetrics practice's genetic counseling needs. Further study is needed regarding information transfer and patient satisfaction in order to fully evaluate this approach. A similar model could be considered for other primary care settings with large volumes of genetic counseling patient encounters.