

TSH Time to Follow Up After Failed Follow Up Within 6 Months of Trigger Test

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Background

Inaccurate diagnoses and diagnostic delays are leading causes of harm in ambulatory care, estimated to affect 1 in 20 outpatients per year.

Inadequate management of test results contributes substantially to these harms through delays in diagnosis or provision of evidence-based treatment.

Objectives

Understand patient characteristics associated with delayed follow up after diagnostically significant TSH test:

- Relationship between age and delayed follow up
- Relationship between sex and delayed follow up
- Relationship between TSH result value and delayed follow up

Methods

Patients were identified as at risk for delays in care through the use of an Epic report (“trigger”) that identifies patients with abnormal TSH test results without follow up testing within 6 months.

Participants were above age 18, with an initial test result ordered by a primary care provider at Johns Hopkins Community Physicians or Johns Hopkins School of Medicine general internal medicine practice between 01/01/2016 and 12/31/2016.

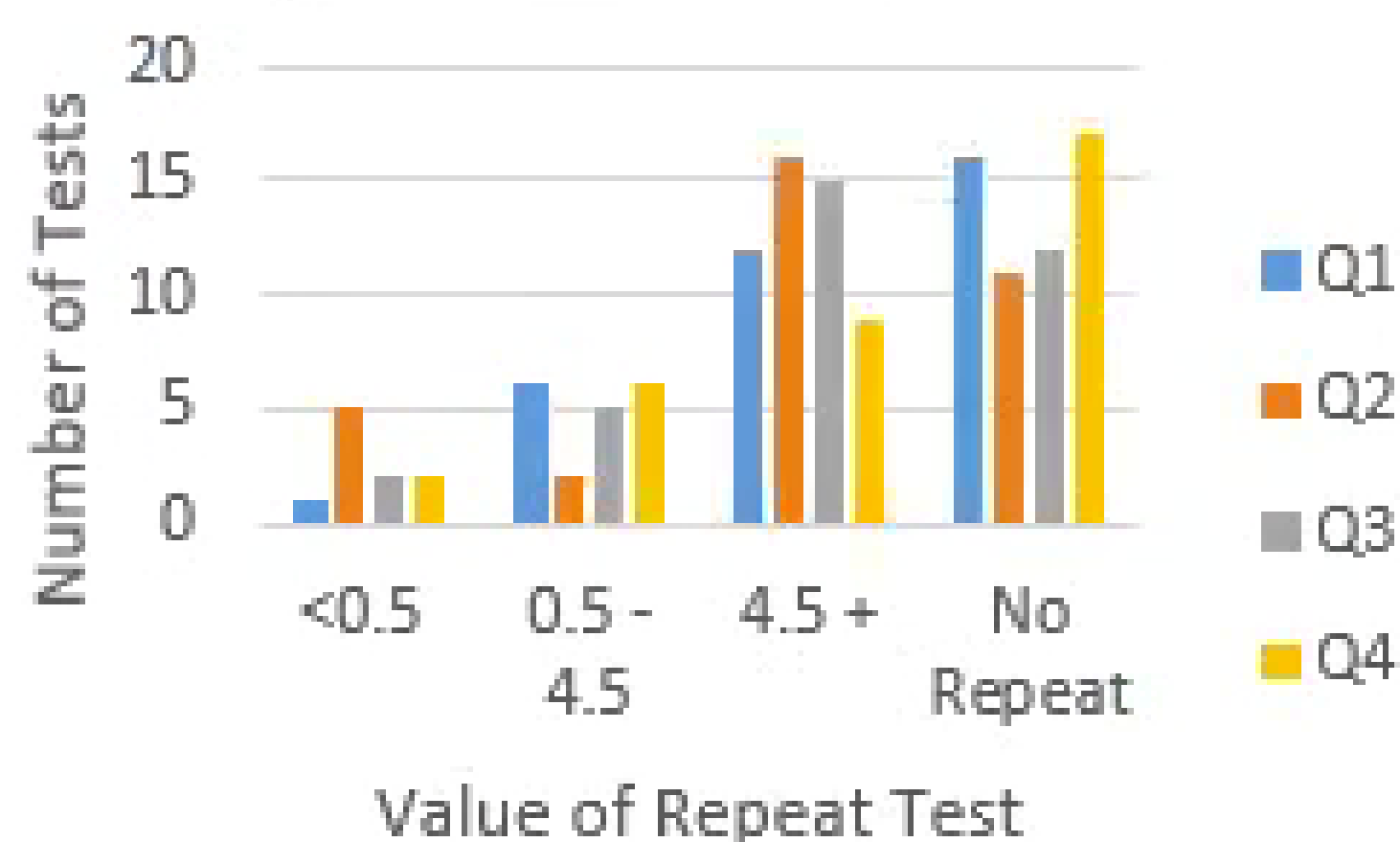
Table 1: Descriptive statistics of qualifying and follow up TSH tests without follow up at 6 months

	Mean	Min	Median	Max
n=137				
Qualifying Value (mIU/L)	28.63	0.16	16.13	181.80
Follow Up Value (mIU/L)	13.66	0.02	7.43	90.38

Table 2: Characteristics of TSH without follow up at 6 months by Epic trigger

Variable	Mean	Q1	Median	Q3
Age	53.7	41	54	66
TSH Result (mIU/L)	89.5	12	16.5	32
Sex	Male (n = 61) 30%	Female (n=142) 70%		

Follow Up Test Value by Qualifying Test Quartile



Results

Overall decrease in mean and median TSH value when comparing the qualifying test TSH values to the follow up TSH values.

Patients with the lowest qualifying tests (Q1) and highest qualifying tests (Q4) have the highest number of non-repeat tests.

Patients with the highest qualifying TSH values (Q4) have the largest number of non-repeat tests.

Patients with qualifying tests between 11.56 mIU/L and 16.53 mIU/L (Q2) have the highest number of repeat tests falling out of range, <0.5 mIU/L or > 4.5 mIU/L.

Conclusions

- Relationship between TSH value and follow up time or no follow up within 1 year
- Validity of Epic data
- Pattern of age/sex with failed follow up

Future Directions

The next phase of this study will incorporate chart review to determine patient and provider factors associated with failed follow up.

References

Singh H, Meyer AN, Thomas EJ. The frequency of diagnostic errors in outpatient care: estimations from three large observational studies involving US adult populations. *BMJ Qual Saf.* 2014 Sep;23(9):727-31.

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