

# Large-scale characterization of gender differences in time to diagnosis in longitudinal observational health data

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## INTRODUCTION

1. There is increasing evidence of longer time to diagnosis for women than men
2. But to date, **no systematic assessment** across large number of conditions and condition types, and populations

## METHODS

1. Analyze patterns of diagnosis for 112 conditions across 16 disease categories
2. Datasets:  
 CCAE (n=32 million)  
 Medicaid (n=32 million)  
 Medicare (n=10 million)  
 Electronic health record (n=6 million)
3. Identify **presenting symptoms** for all conditions that are **common** to men and women (automatically and manually)
4. Compute multiple **TTD (time-to-diagnosis)** metrics between presenting symptom and diagnosis

## CONCLUSION

For most conditions analyzed, women experience a longer time between symptoms onset and disease diagnosis than men across databases, whether curated vs automatically presenting symptoms, and metrics computed

Our analysis highlights systematic gender differences in patterns of disease diagnosis and suggests that symptoms of disease are measured or weighed differently for men and women.

This type of analysis enables the generation of new hypotheses at scale.

Our site provides interactive results:



## RESULTS

Figure below shows differences in **diagnostic delays** in CCAE between men and women. For 108 out of 112 conditions, women experience a longer TTD than men

The **trend persists across databases**, **presenting symptoms** (manually curated vs. automatically identified), and TTD **metrics**

