



# Trends in Hospitalization Among Patients with Cardiovascular, Immunological, and neurological Illnesses: Findings from HowOften

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# Background

- Cardiovascular, immunological, and neurological disorders represent the most significant disease burden both in the United States and worldwide.
- These conditions are primarily chronic, requiring continuous medical care and often leading to frequent hospitalizations, significantly increasing healthcare costs



# Objective

- To estimate the incidence rates of hospitalizations across 14 conditions, stratified by age and gender.
- To investigate changes in these rates over the past decade



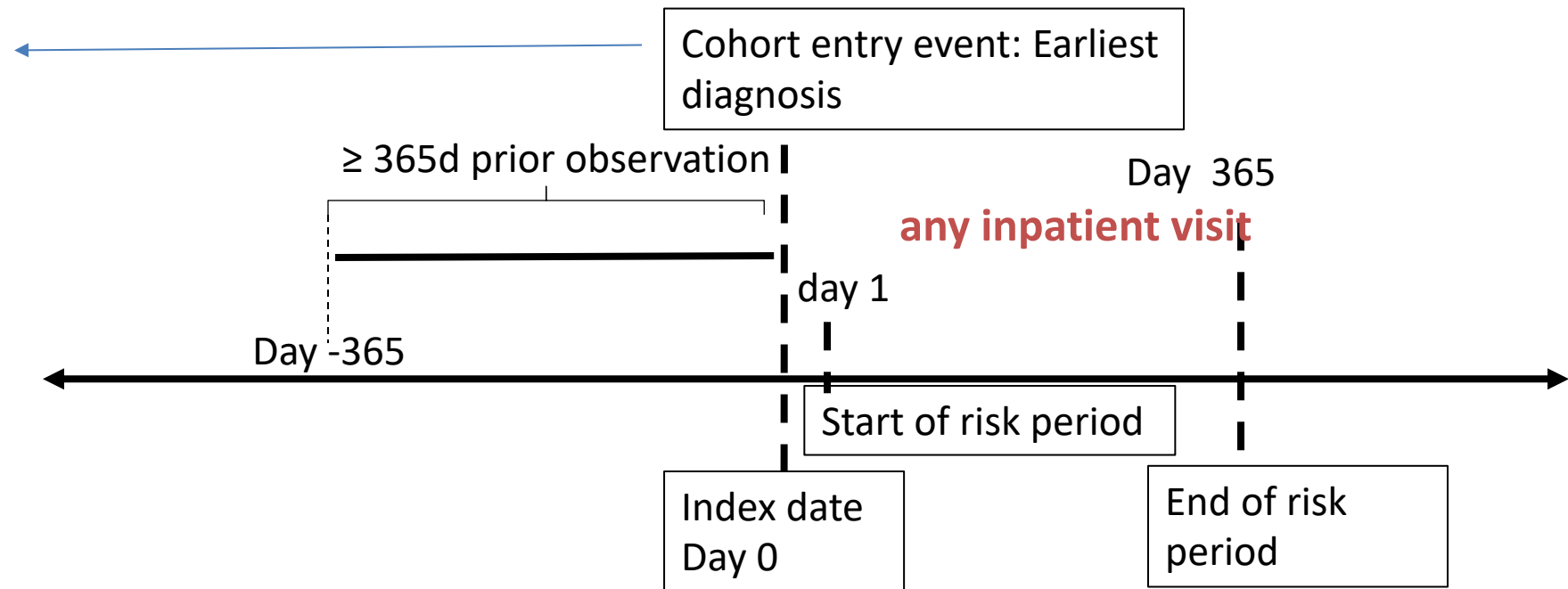
# Method

- Retrospective observational cohort study leveraged data from five US administrative claims databases and one electronic health record database

Stroke, heart failure, myocardial infarction, atrial fibrillation

Psoriatic arthritis, plaque psoriasis, systemic lupus erythematosus, ulcerative colitis, rheumatoid arthritis, and Crohn's disease

Major depressive disorder, epilepsy, multiple sclerosis, and Alzheimer's disease





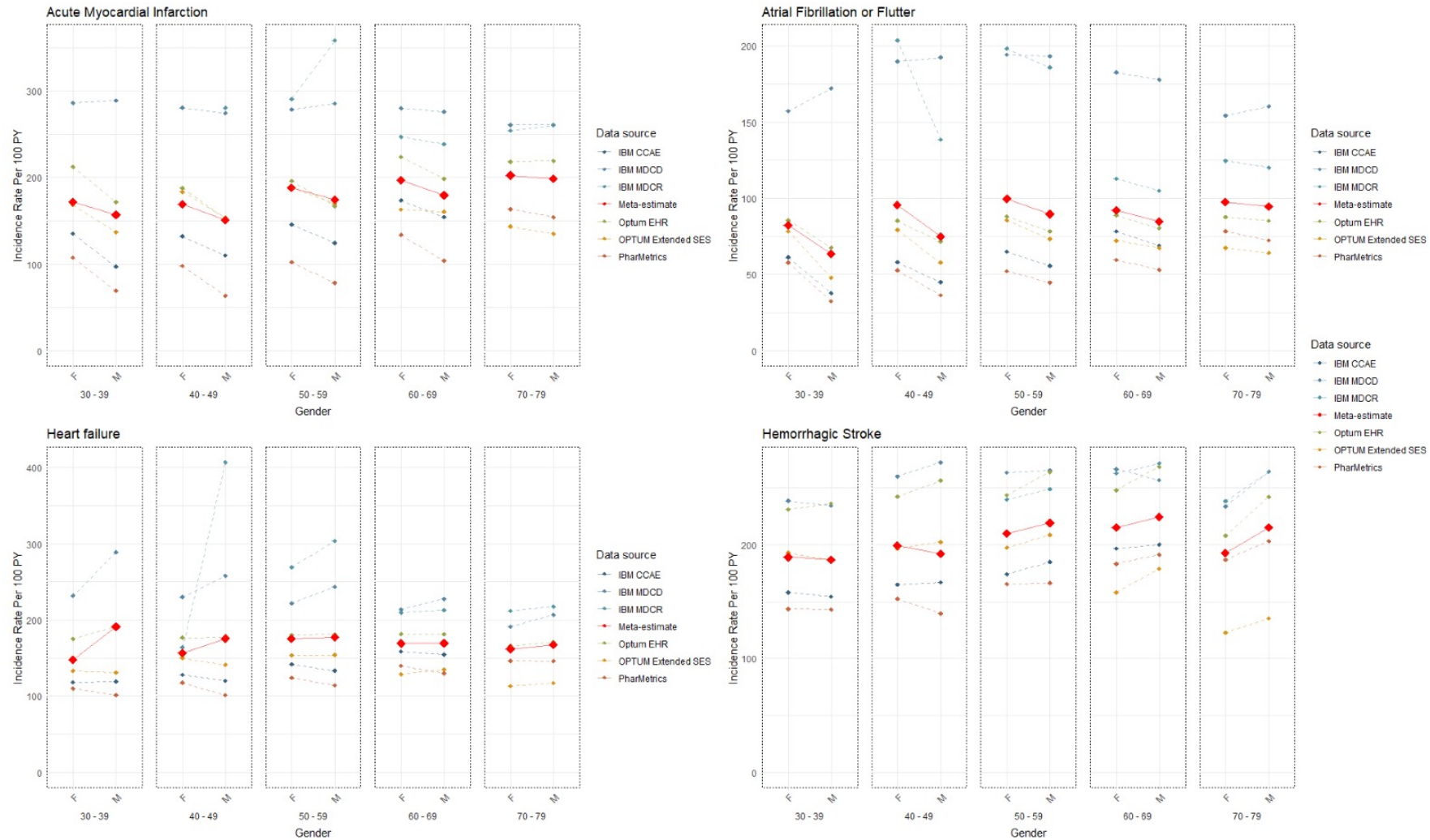
# Results: Incidence proportion (%)

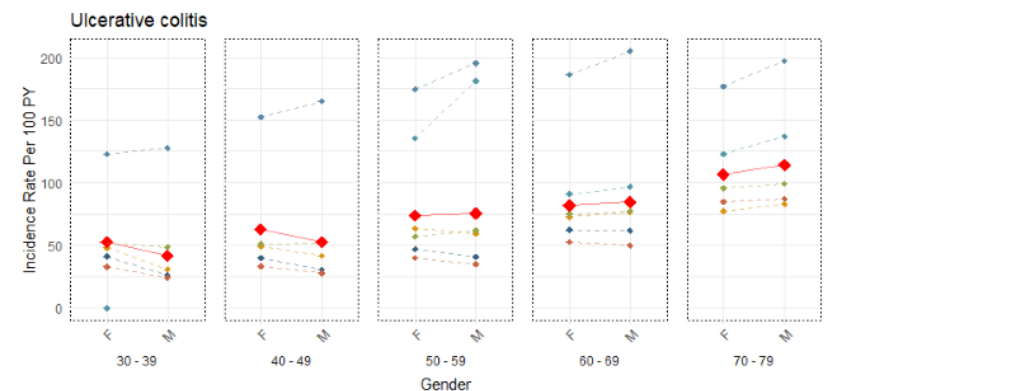
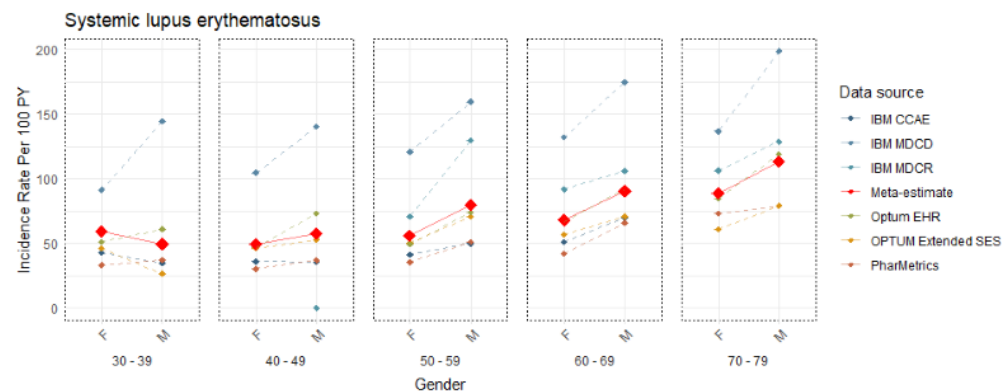
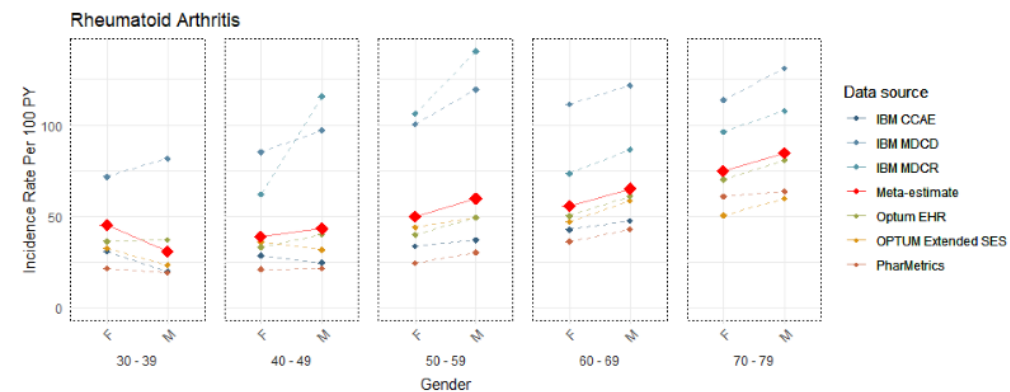
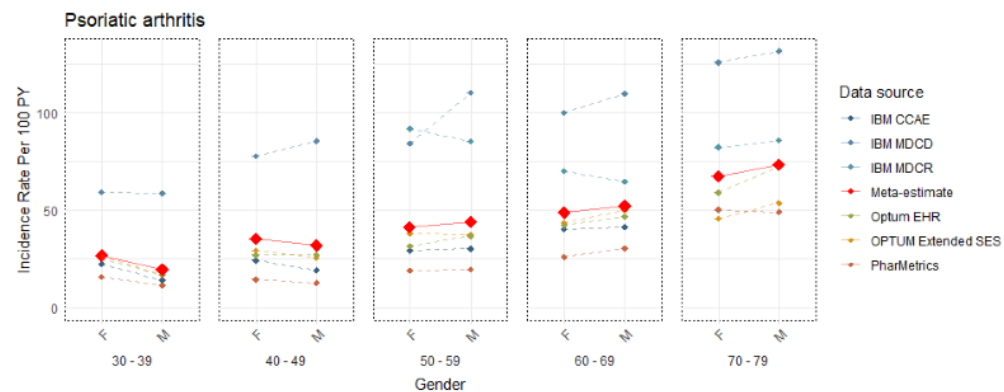
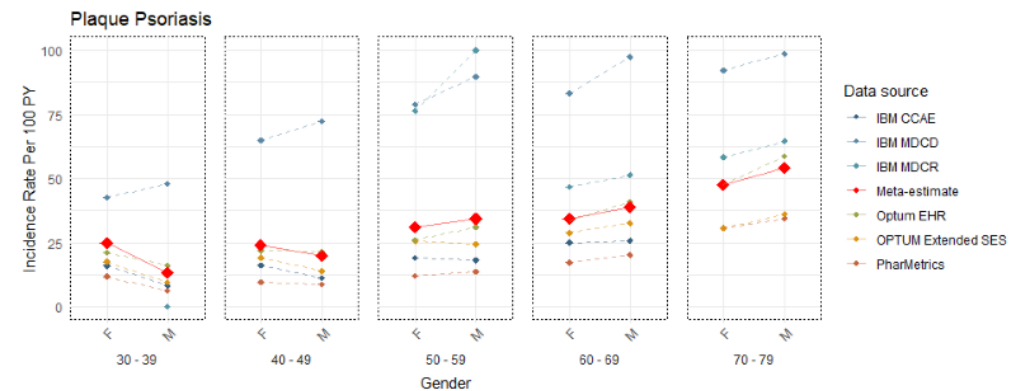
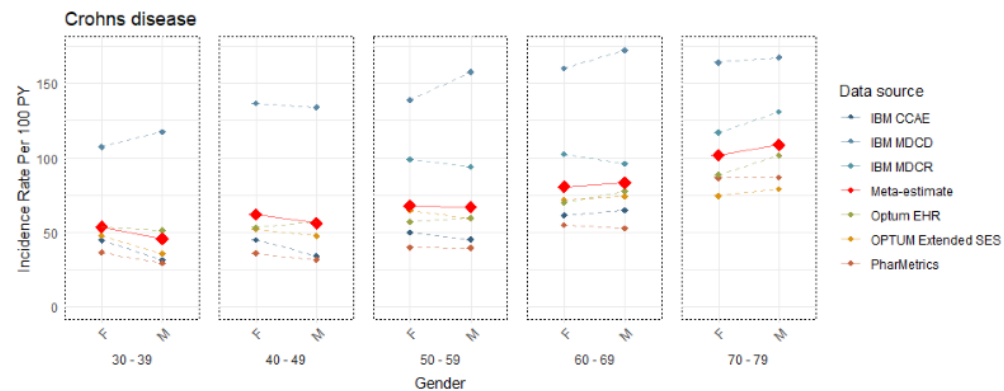
[https://results.ohdsi.org/app/06\\_HowOften\\_Azza](https://results.ohdsi.org/app/06_HowOften_Azza)

Condition	IBM CCAE	IBM MDCD	IBM MDCR	OPTUM Extended SES	Optum EHR	PharMetrics
Hemorrhagic Stroke	39.9%	55.5%	47.7%	41.1%	56.0%	37.3%
Heart failure	43.0%	60.5%	54.4%	46.7%	52.9%	43.0%
Acute Myocardial Infarction	39.3%	60.4%	52.1%	46.0%	54.7%	32.6%
Atrial Fibrillation	33.2%	61.6%	50.5%	46.8%	46.4%	37.9%
Epilepsy	27.3%	44.0%	43.4%	35.2%	33.5%	26.0%
Alzheimer's	22.9%	41.1%	34.8%	28.7%	27.4%	26.9%
Crohns disease	18.8%	42.1%	34.3%	25.8%	23.8%	17.5%
Ulcerative colitis	17.3%	46.1%	33.4%	26.1%	23.1%	16.6%
Systemic lupus erythematosus	18.5%	38.7%	32.8%	24.4%	22.6%	17.6%
Multiple Sclerosis	19.3%	40.4%	36.0%	26.0%	16.9%	14.2%
Rheumatoid Arthritis	14.7%	35.5%	29.3%	22.1%	20.5%	13.8%
Major depressive disorder	12.6%	28.1%	29.5%	18.4%	19.7%	11.2%
Psoriatic arthritis	12.6%	31.5%	26.7%	18.9%	15.6%	10.0%
Plaque Psoriasis	8.1%	26.5%	19.9%	12.7%	13.1%	7.1%

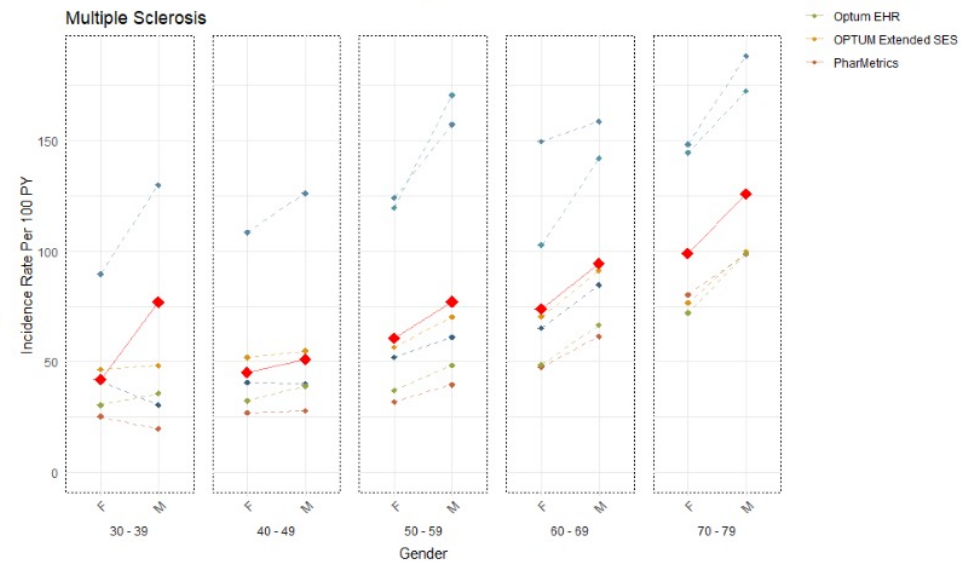
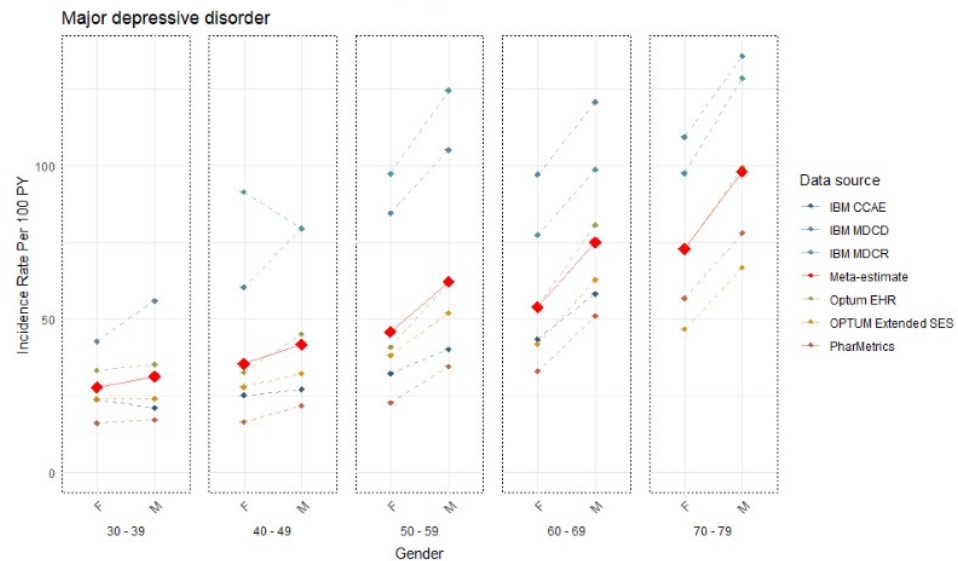
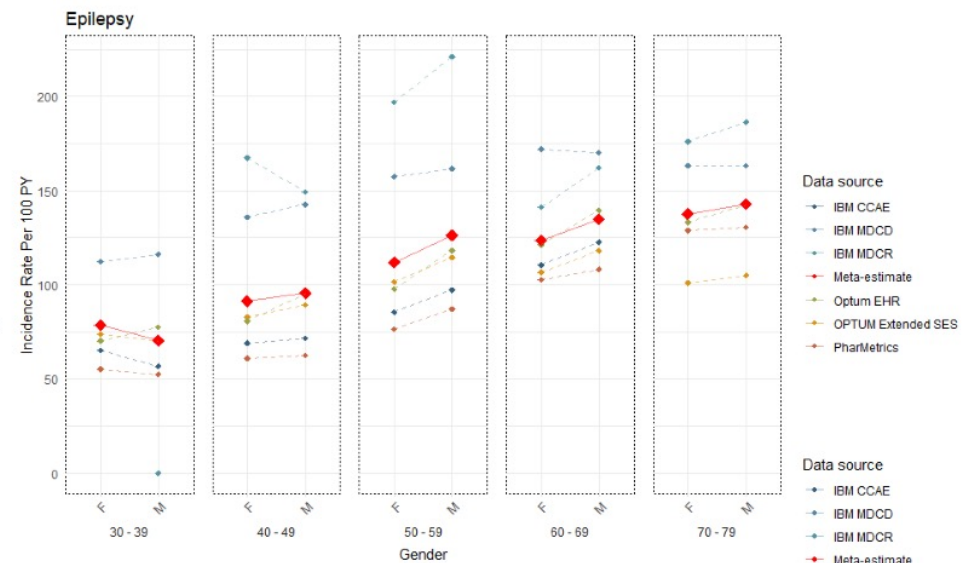
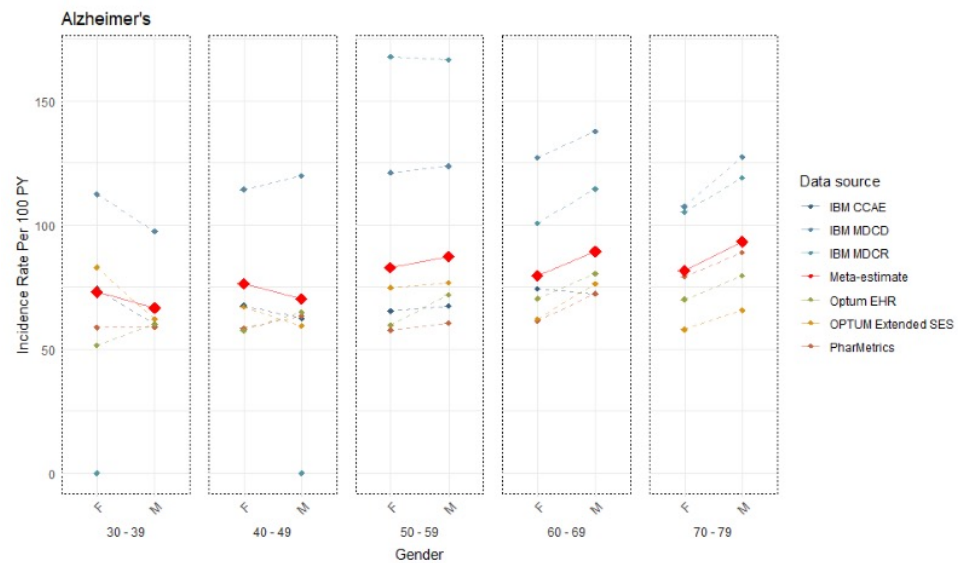


# Age and gender stratified IR by data source





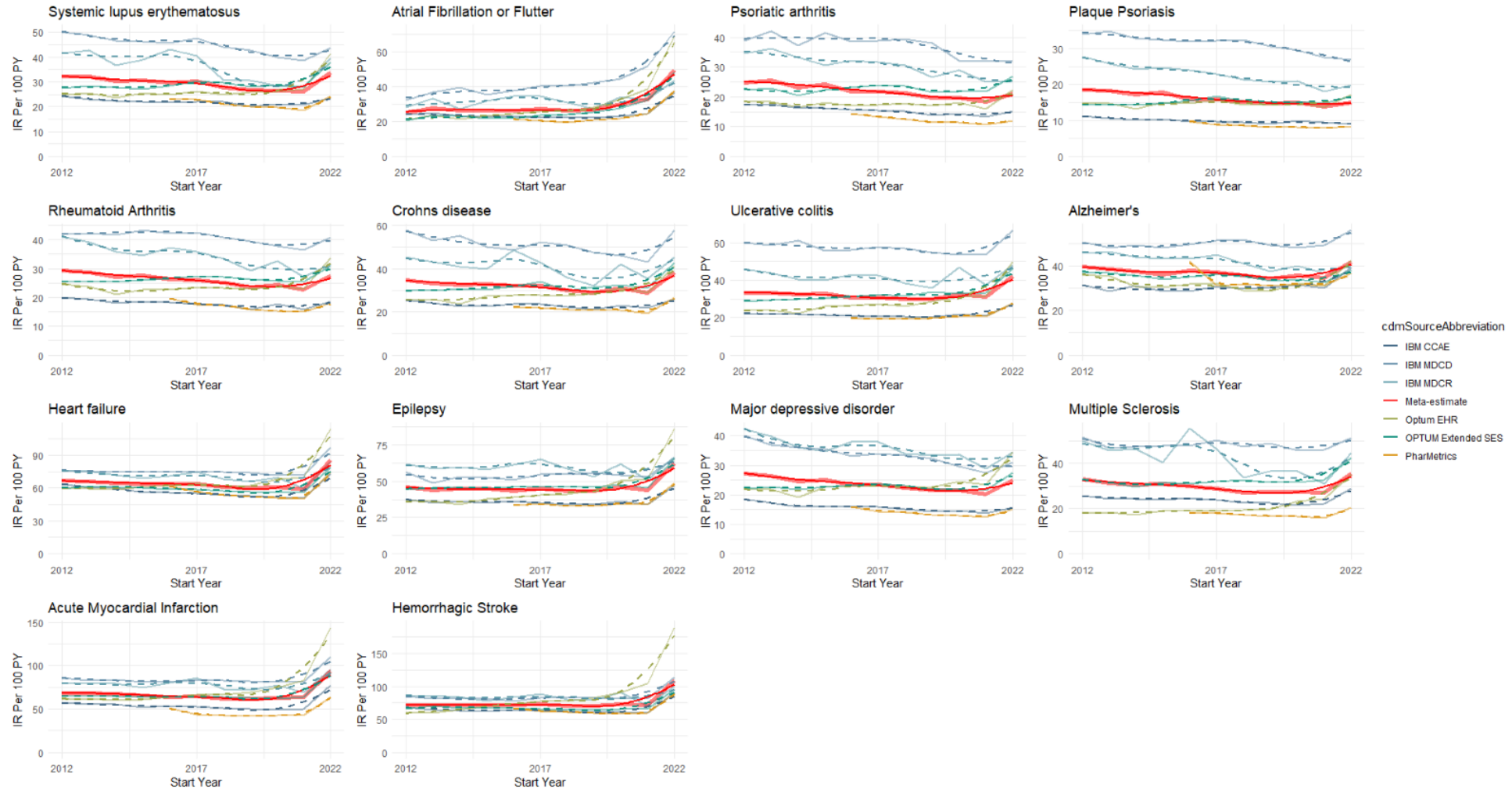








# Overall incidence rates (IR) per 100-person year by calendar year for each condition across data sources.





# Conclusion

- Considerable hospitalization risks post-diagnosis in most conditions.
- Variation by age, gender, and data source.
- Incidence rates for most conditions remained relatively stable over the last 10 years, imposing a persistent burden on the healthcare system.
- These findings underscore the value of using a network of data sources to assess long-term secular trends in health outcomes.
- Individual databases may exhibit secular patterns in trends. These patterns might represent random or non-random noise specific to each data source, potentially distorting the true phenomena being studied.