Generalized Anxiety Disorder Epidemiology: Findings from Claims Analysis and a Systematic Literature Review

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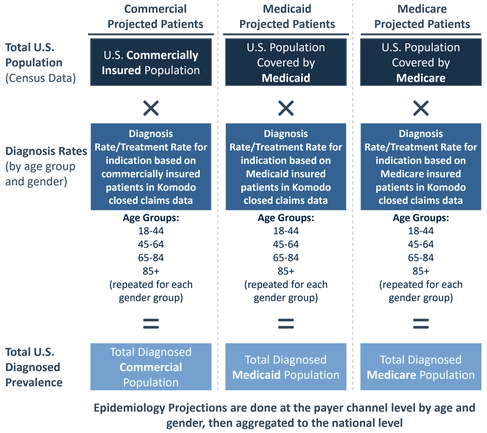
INTRODUCTION & OBJECTIVES

- Generalized Anxiety Disorder (GAD) is a chronic mental health condition characterized by excessive, uncontrollable worry about various aspects of life. It affects millions of individuals worldwide, leading to significant impairment in social and occupational areas of functioning[1].
- GAD is associated with considerable health and economic burden. The prevalence of GAD is notably high in both community and primary care settings, making it a critical public health concern[2].
- Despite its widespread impact, contemporary US epidemiologic estimates remain limited and inconsistent; there are gaps in our understanding of GAD regarding its prevalence, annual incidence rates and comorbidity profile as seen through medical and pharmacy claims.
- This study aimed to update and enumerate GAD prevalence estimates using real-world data (RWD) and to contextualize findings through a systematic literature review (SLR).

METHODS

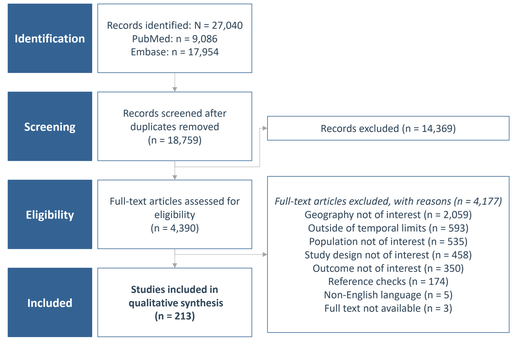
- Closed claims data from the Komodo Healthcare Map™ database was used to estimate annual incidence and prevalence rates of GAD in US adults from 2020-2023, and three-year prevalence rates for 2021-2023. Patients were identified using ICD-10 diagnosis codes and GAD-related pharmacological treatment codes, with continuous enrollment (CE) required for the latest calendar year of the study period. For incident patients, CE was also required in the two years prior to the first diagnosis to ensure incidence (**Figure 3**).
- Estimates were adjusted for payer channel, gender, and age, and projections were performed to scale diagnosis rate estimates from the data source to reflect that of the US population (**Figure 1**).
- In parallel, a SLR identified US GAD epidemiology studies published in English from 2014 to 2024 in PubMed, MEDLINE, and Embase. The criteria for including articles in the SLR were real-world studies focusing on patients with GAD (**Figure 2**).
  - Interventions included pharmacological treatments, psychotherapies, or studies involving treatment-naïve patients. Studies had to be in English and include an available abstract (**Figure 2**).

Figure 1 | Claims Epidemiology Projection Methodology



Epidemiology Projections are done at the payer channel level by age and gender, then aggregated to the national level

Figure 2 | PRISMA Flow Diagram of SLR Study Selection

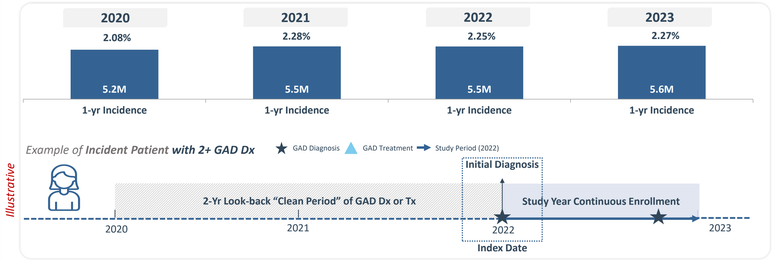


Of the n=213 studies included in the overall SLR, n=5 reported on GAD primary epidemiology. There were n=4 population surveys, and n=1 database analysis. One study focused on specific sub-population (i.e., active-duty service members)[4]. For a well-established condition such as GAD, the body of literature is smaller than expected.

Figure 3 | Claims Cohort Inclusion and Exclusion Criteria

Epidemiology Cohort Criteria – Projected Prevalence and Annual Incident			
Universal Inclusion Criteria	2 or more Dx 41.1, at least 30 days apart OR 1 Dx F41.1 and 1+ GAD-related Tx claim without comorbid neuropsychiatric conditions		
	Time Period	**Exclusion Criteria**	**Continuous Enrolment**
Prevalent Cohort	• 1-year intervals from 2020-2023 • 3-year interval 2021-2023	• Missing age or sex • < 18 years of age at diagnosis • **Incident –** GAD Dx 2 years prior to Index date (clean-period)	Require 12 months of continuous enrolment during the **latest** calendar year of the prevalence time-period
Incident Cohort	• 1-year intervals from 2020-2023		Require continuous enrolment in the respective time frame and 2-years pre-index

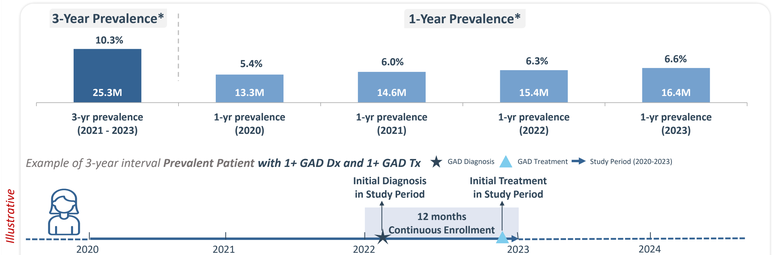
Figure 4 | Projected Incidence of Generalized Anxiety Disorder in the US Adult Population



Key Findings

The annual GAD incidence estimate fluctuated between ~2.1% and ~2.3% of the US population from 2020 to 2023 using a 2-year washout period

Figure 5 | Projected Prevalence of Generalized Anxiety Disorder in the US Adult Population



*Confidence in the prevalence estimate increased with adjustments to the study criteria to exclude comorbid neuropsychiatric conditions for patients with only 1 diagnosis and 1 or more treatments. The market basket was refined, slightly reducing the prevalence estimate to ensure confidence that the pharmacotherapy used was likely for the GAD related diagnosis (e.g., 2023 1-yr projected prevalence decreased from 7.2% to 6.6% as the treatment basket was refined and inclusion criteria narrowed).

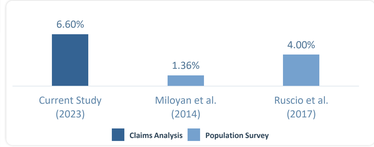
Key Findings

In 2023, the 1-year GAD prevalence among US adults was 6.6% (16.4M). The 3-year prevalence (2021-2023) was 10.3% of the US adult population (25.3M).

Table 1 | Literature Estimates for GAD Prevalence and Incidence

Author, Year	Outcome	Study Design / Data Source	Patient Population	Key Insights
Russell, 2022[4]	**Incidence**	Database Analysis	Active-duty service members (N=533,906)	The overall GAD incidence from 1999 to 2018 was 3.02 per 10,000 individuals
Miloyan, 2014[5]	**Prevalence**	Population Survey	US adults aged 55+ (N=43,093)	The 12-month GAD population prevalence was 1.36%
Ruscio, 2017[6]		Population Survey	US adults (N=9,282)	The lifetime prevalence for GAD in the US was 7.8%, and the 12-month GAD prevalence was 4.0%
Loprinzi, 2017[7]		Population Survey	US adults aged 20-39 (N=2,088)	The patient interview determined prevalence of generalized anxiety was 2.8% while self-reported prevalence was 17.2%
Stein, 2021[8]		Population Survey	US adults (N=9,282)	The lifetime GAD prevalence in the US was 7.8%

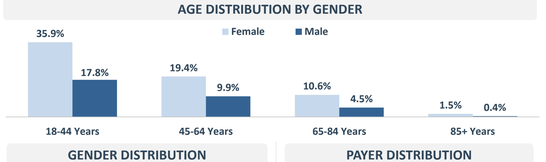
Figure 6 | Comparison of 1-Year Prevalence



Key Findings

Literature for GAD epidemiology is limited, dated and vary widely between sources. This study provides the most recent estimate based on a highly comprehensive claims database.

Figure 7 | Projected Prevalent GAD Patient Demographics (2021-2023), N =~25.3M



3-year prevalent (2021-2023) patients with GAD were **predominantly female** (67.4%), **middle-aged** (mean age: 43.7), and **commercially insured** (60.6%). Demographic analysis across various time periods consistently showed that GAD patients are predominantly commercial insured, female and middle-aged, highlighting a potential high-risk sub-group.

Table 2 | Annual Projected Prevalent GAD Patient Demographics (2020–2023)

Demographics	2020	2021	2022	2023
	N=13.3M	*N=14.6M*	*N=15.4M*	*N=16.4M*
Gender				
Female	68.5%	68.3%	68.2%	68.0%
Male	31.5%	31.7%	31.8%	32.0%
Age Group				
18-44	55.0%	53.6%	54.6%	54.5%
45-64	30.0%	29.1%	28.7%	28.9%
65-84	15.0%	15.4%	14.9%	14.8%
85+	0.0%	1.9%	1.8%	1.8%
Mean (Age)	44.5	43.4	43.3	43.4
Median (Age)	42	41	41	41
Payer Channel				
Commercial	62.7%	59.8%	61.5%	61.2%
Medicaid	17.2%	17.9%	17.1%	17.5%
Medicare	20.1%	22.3%	21.4%	21.3%

LIMITATIONS

Claims analyses are limited to information available in medical claims data from Komodo Health; any symptoms, diagnoses, or treatments not reported on a medical claim and submitted for reimbursement will not be included. This study is limited to patients with GAD diagnosis in medical claims. Therefore, undiagnosed and misdiagnosed patients are not considered in prevalence estimates and study prevalence estimate may represent a floor of the true GAD prevalence in the US population.

CONCLUSION

There is a lack of reliable and consistent data for GAD epidemiology in current literature. This study provides updated real-world estimates of GAD prevalence and incidence among US adults. With over one in ten adults experiencing GAD over a three-year period, these findings reveal the substantial and growing burden of GAD in the US population.

Ask A Question: eferries@mindmed.com
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