Study Report

P3-C1-004

DARWIN EU® – Trends in utilisation of Attention-Deficit Hyperactivity Disorder (ADHD) Medications

04/03/2025

Version 4.0

Contents

Study Title	DARWIN EU® – Trends in utilisation of Attention-Deficit Hyperactivity Disorder (ADHD) Medications
Study Report Version	V4.0
Date	04/03/2025
EU PAS number	EUPAS1000000219
Active substance	Atomoxetine (ATC code: N06BA09) Dexamfetamine (N06BA02) Guanfacine (C02AC02) Lisdexamfetamine (N06BA12) Methylphenidate (N06BA04)
Medicinal product	n/a
Research question and objectives	The overall aim of this study is to characterise the use of ADHD medications in the period of 2010 to 2023. The specific objectives are: 1. To estimate the monthly and yearly period prevalence of use of each ADHD medicine, overall and stratified by age and gender in each database. 2. To estimate the monthly, quarterly, and yearly incidence of use of each ADHD medicine, overall and stratified by age and gender in each database. 3. Among new users of each ADHD medicine, to identify the indication at the time of the initial prescribing/dispensing, overall and stratified by age, sex, and quarter. 4. Among new users of each ADHD medicine, to estimate the initial dose, cumulative dose, and time on treatment of the initial medication, overall and stratified by age, sex, indication at index, and quarter. 5. Among new users of any ADHD medicine, to estimate the total treatment duration, number of prescriptions overall and by medicine, stratified by initial medicine and quarter of the year. 6. To identify the treatment pathway of each individual who initiated an ADHD medicine, including treatment add-on, switch and concurrent medication/co-prescribing, stratify by calendar time of initiation.
Countries of study	Belgium, Germany, the Netherlands, Spain and the UK
Author	Xintong Li, Ed Burn, Yuchen Guo

1. DESCRIPTION OF STUDY TEAM

Study team role	Names	Organisation
Study Project Manager/Principal Investigator	Xintong Li	University of Oxford
Data Scientist	Edward Burn Yuchen Guo	University of Oxford
Epidemiologist	Xintong Li	University of Oxford
Clinical Domain Expert	Daniel Prieto Alhambra	University of Oxford
Data Partner*	**Names**	**Organisation**
IQVIA LPD Belgium	James Brash	IQVIA
IQVIA DA Germany	James Brash	IQVIA
IPCI	Mees Mosseveld	Erasmus MC
BIFAP	Miguel Ángel Maciá Martínez Mar Martín-Perez Hermenegildo Martínez-Alcalá Ana Llorente-Garcia	Agencia Española de Medicamentos y Productos Sanitarios
SIDIAP	Talita Duarte Salles	IDIAP JGol
CPRD	Antonella Delmestri	University of Oxford

*Data partners' role is only to execute code at their data source, review and approve their results. They do not have an investigator role. Data analysts/programmers do not have an investigator role and thus declaration of interests (DOI) for them is not needed.

2. DATA SOURCES

Table 1. Description of data sources.

Country	Name of Database	Health Care setting	Type of Data	Number of active subjects	Calendar period covered by each data source
Belgium	IQVIA LPD Belgium	Primary Care	EHR	279.000	2013-10-01 to 2024-01-

					18
Germany	IQVIA DA Germany	Primary GPs and specialists	EHR	5.25 million	1992-01-01 to 2023-12-31
The Netherlands	IPCI	Primary care	EHR	1.24 million	2006-01-01 to 2023-12-31
Spain	BIFAP	Primary care, hospital inpatient	EHR	16.1 million	2001-01-01 to 31-03-2023
Spain	SIDIAP	Primary care, hospital inpatient	EHR	5.94 million	2006-01-01 to 2023-06-30
UK	CPRD	Primary Care	EHR	2.96 million	1987-09-09 to 2023-06-23

3. ABSTRACT

Title

DARWIN EU® – Trends in utilisation of Attention-Deficit Hyperactivity Disorder (ADHD) Medications

Rationale and background

The Medicines Shortages SPOC Working Party (responsible for monitoring and reporting events that could affect the supply of medications in the EU) has been monitoring shortages of different medications to treat ADHD, mainly due to an increased demand in multiple markets, production constraints related to raw material availability, new regulatory approvals for some medications, and changes in the competitive landscape. The main products under monitoring are lisdexamfetamine and methylphenidate, but three more have the indication in Europe (atomoxetine, dexamfetamine and guanfacine). Currently, the situation appears to be stable in the EU without critical shortage. However, some constraints in the supply could arise throughout 2024.

To better anticipate potential shortages and its impact on appropriate patient management, it would be important to assess the evolution of prescriptions over time and get an overview of how these ADHD medications are being used across Europe.

Research question and objectives.

The overall aim of this study is to characterise the use of ADHD medications in the period of 2010 to 2023. The specific objectives are:

1. To estimate the monthly and yearly period prevalence of use of each ADHD medicine, overall and stratified by age and gender in each database.

2. To estimate the monthly, quarterly, and yearly incidence of use of each ADHD medicine, overall and stratified by age and gender in each database.

3. Among new users of each ADHD medicine, to identify the indication at the time of the initial of the prescribing/dispensing, overall and stratified by age, sex, and quarter.

4. Among new users of each ADHD medicine, to estimate the initial dose, cumulative dose, and time on treatment of the initial medication, overall and stratified by age, sex, indication at index, and quarter.

5. Among new users of any ADHD medicine, to estimate the total treatment duration, number of prescriptions overall and by medicine, stratified by initial medicine and quarter of the year.

6. To identify the treatment pathway of each individual who initiated an ADHD medicine, including treatment add-on, switch and concurrent medication/co-prescribing, stratify by calendar time of initiation.

Methods

Study design

Population-level drug utilisation study (Objectives 1 and 2)

Patient-level utilisation study (Objectives 3 - 6, new user cohort study).

Population

In the population-level utilisation of ADHD medications, all people aged 3 years and older, registered in the respective databases since 1st of January of 2010 to the latest available data (2023 or 2024), with at least 365 days of prior data availability, were included.

In the patient-level utilisation of ADHD medications, new users were identified using the first record of any of the ADHD medications of interest within the study period, having no previous records for any study medication during the 12 months before cohort entry.

Variables

Drugs of interest:

Five approved medications for the treatment of ADHD in Europe: atomoxetine, dexamphetamine, guanfacine, lisdexamfetamine and methylphenidate.

Data sources

Six different data sources in five European countries were used:

- IQVIA LPD Belgium, covering a sample of outpatient records from Belgium,
- IQVIA DA Germany, covering a sample of outpatient records from Germany,
- IPCI, covering Dutch primary care,
- BIFAP, covering Spanish primary care and hospital inpatient care,
- SIDIAP Database, covering Spanish primary care and hospital inpatient care in the Catalonia region,
- CPRD, covering UK primary care.

Statistical analysis

Objectives 1 and 2 were population-level drug utilisation study. We estimated the monthly, (quarterly) and yearly period prevalence and incidence use of each ADHD medications and stratified by age group and sex.

Objectives 3 to 6 were patient-level drug utilisation study. In Objectives 3 and 4, new user cohorts were constructed for each ADHD medicine with pre-defined washout period, indication for the initial prescribing/dispensing has been estimated, overall and stratified by age, sex, and quarter of the year. Initial dose, cumulative dose and length of the treatment were calculated. In Objective 5 and 6, we constructed new user cohorts of any ADHD medicine, estimate the total treatment duration, number of prescriptions. Treatment pathway was defined and the proportion of individuals in each path and the length of each treatment stage have been reported.

For all analyses a minimum cell counts of 5 have been used when reporting results, with any smaller counts have been noted as “<5”.

EU PAS number: EUPAS1000000219

Results

We identified a total of 198,167 individuals who initiated any ADHD medication across all databases during the study period. Methylphenidate was the most used medication in all databases, but the characteristics of patients varied markedly across the countries. For example, the median age of people who initiated methylphenidate were 13 to 14 years in IQVIA DA Germany, SIDIAP, and CPRD GOLD, and were 19 in IQVIA LPD Belgium and IPCI.

The prevalence of any medication used in the overall population (without age and sex stratification) increased in IPCI, and CPRD GOLD during the study period, and increased in IQVIA LPD Belgium and IQVIA DA Germany since 2015. In SIDIAP, overall prevalence increased during 2010 to 2015, then stabilised since 2015.

When looking at individual medication, the prevalence rates of all five study medications increased among people aged 18 or over in all five countries. Among children aged 3 to 17, the prevalence of methylphenidate and atomoxetine use decreased in most databases since 2015 (rates in IQVIA DA Germany, IPCI, and SIDIAP decreased for both medications, rates in CPRD GOLD decreased for atomoxetine, use of atomoxetine was very rare in IQVIA LPD Belgium), while prevalence of lisdexamfetamine and guanfacine increased in the past decade in all databases (except in IQVIA LPD Belgium record of lisdexamfetamine was not observed).

We also estimated the incident use of ADHD medications and observed that the time trend of incidence rates varied by database, age, and sex groups. The overall incidence rates of any ADHD medication use increased in IQVIA LPD Belgium and IQVIA DA Germany since 2015, increased in IPCI since 2018, and increased in CPRD GOLD since 2010. In SIDIAP, overall incidence rates increased during 2010 to 2014, then showed a decreased trend till 2021.

Among children aged 3 to 17 years old, incidence rates of methylphenidate decreased since 2011 in IQVIA DA Germany, since 2016 in IPCI, since 2014 in SIDIAP. In IQVIA LPD Belgium and CPRD GOLD, incidence rates in this age group increased during the study period. Among adults, incidence rates of methylphenidate increased in all five databases during the study period.

Only a small percentage of patients had record of ADHD diagnosis before initiation of medications in most of the databases. We observed similar patterns that the youngest and the oldest groups had lower initial dose compared to those ages 11 to 24. Most people had a median of 2-4 prescriptions of the initial medication after initiation. In the analysis of treatment patterns, the most frequent first-line treatment was methylphenidate; switch of treatment was not frequently observed.

Conclusion

Over the past 14 years, methylphenidate has dominated the ADHD medication use in all participating databases. Utilisation of ADHD medications varies across age and sex groups, and substantial changes have occurred over time within each database. We also observed different trends and patterns between databases. Understanding the utilisation of ADHD medications can provide useful information in monitoring use, as well as for anticipation and planning to minimise potential shortages.

4. LIST OF ABBREVIATIONS

ADHD	Attention deficit hyperactivity disorder
ATC	Anatomical Therapeutic Chemical
BIFAP	Base de Datos para la Investigación Farmacoepidemiológica en el Ámbito Público (Pharmacoepidemiological Research Database for Public Health Systems)
CDM	Common Data Model
COPD	Chronic obstructive pulmonary disease
CPRD	Clinical Practice Research Datalink
DA	Disease Analyzer
DARWIN EU®	Data Analysis and Real World Interrogation Network
DUS	Drug Utilisation Study
EEA	European Economic Area
EHR	Electronic Health Records
EMA	European Medicines Agency
EU	European Union
GDPR	General Data Protection Regulation
GP	General Practitioner
ICD	International classification of disease
ICD-10-CM	the International Classification of Diseases, Tenth Revision, Clinical Modification
IPCI	Integrated Primary Care Information Project
IQR	Interquartile range
LPD	Longitudinal Patient Data
OMOP	Observational Medical Outcomes Partnership
PCP	Primary care physicians
PPC	Proportion of patients covered
SIDIAP	Sistema d'Informació per al Desenvolupament de la Investigació en Atenció Primària
SNS	Sistema Nacional de Salud
SPOC	Shortages Single Point of Contact

5. AMENDMENTS AND UPDATES

None.

6. MILESTONES

Study deliverable	Timelines (planned)	Timelines (actual)
Draft Study Protocol	24/4/2024	24/4/2024
Final Study Protocol	10/07/2024	12/07/2024
Creation of Analytical code	August 2024	August 2024
Execution of Analytical Code on the data	August 2024	03/09/2024
Draft Study Report	September 2024	20/11/2024
Final Study Report	To be confirmed	17/01/2025

7. RATIONALE AND BACKGROUND

The Medicines Shortage SPOC Working Party (responsible for monitoring and reporting events that could affect the supply of medications in the EU) has been monitoring shortages of different medications to treat Attention-Deficit Hyperactivity Disorder (ADHD), mainly due to an increased demand in multiple markets, production constraints related to raw material availability, new regulatory approvals for some medications, and changes in the competitive landscape. The main products under monitoring are lisdexamfetamine and methylphenidate, but 3 more have the indication in Europe (atomoxetine, dexamfetamine and guanfacine). Currently, the situation is stable in the EU without critical shortage. However, some constraints in the supply could arise throughout 2024. [1]

To better anticipate potential shortages and its impact on appropriate patient management, it would be important to assess the evolution of prescriptions over time and get an overview of how these ADHD medications are being used across Europe.

8. RESEARCH QUESTION AND OBJECTIVES

The overall aim of this study is to characterise the use of ADHD medications in the period of 2010 to 2023. The specific objectives are:

1. To estimate the monthly and yearly period prevalence of use of each ADHD medicine, overall and stratified by age and gender in each database.

2. To estimate the monthly, quarterly, and yearly incidence of use of each ADHD medicine, overall and stratified by age and gender in each database.

3. Among new users of each ADHD medicine, to identify the indication at the time of the initial prescribing/dispensing, overall and stratified by age, sex, and quarter.

4. Among new users of each ADHD medicine, to estimate the initial dose, cumulative dose, and time on treatment of the initial medication, overall and stratified by age, sex, indication at index, and quarter.

5. Among new users of any ADHD medicine, to estimate the total treatment duration, number of prescriptions overall and by medicine, stratified by initial medicine and quarter of the year.

6. To identify the treatment pathway of each individual who initiated an ADHD medicine, including treatment add-on, switch and concurrent medication/co-prescribing, stratify by calendar time of initiation.

9. RESEARCH METHODS

9.1 Study type and study design

Cohort studies were conducted using routinely collected health data from 6 databases. The study comprised two consecutive parts:

1. Population-level cohort study has been conducted to address objectives 1 and 2, where prevalence and incidence of ADHD medications has been estimated.
2. New drug user cohort design has been used for objectives 3 to 6, where new users of ADHD medications has been identified and followed up.

9.2 Study setting and data sources

This study was conducted using routinely collected data from six databases in five European countries. All databases have been mapped to the OMOP CDM.

1. IQVIA LPD Belgium, Belgium
2. IQVIA DA Germany, Germany
3. IPCI, The Netherlands
4. BIFAP, Spain
5. SIDIAP, Spain
6. CPRD, UK

Note: During the feasibility assessment step, only two of the five medications of interest were seen in the BIFAP database (atomoxetine and methylphenidate), while four medications were observed in the other database from Spain (SIDIAP), knowing that dextroamphetamine was not observed in neither of the Spanish data. In the Belgium data, only atomoxetine, guanfacine and methylphenidate were seen. All five medications were observed in the IQVIA Germany, IPCI (The Netherlands) and UK CPRD data.

Rationale for database selection

The selection of databases for this study was performed based on the relevance for the proposed research question among those databases onboarded and available within DARWIN EU® at the time of the study feasibility assessment (n=18), as well as operational considerations knowing the timing of the study.

Medications for ADHD are primarily prescribed and managed in primary care settings in Europe. To perform the population-level and patient-level drug utilisation study, population-based databases are needed. The population-based databases enabled us to properly define the denominator for the calculation of incidence

and prevalence. All the six selected databases are based on population-level primary care records including prescription information for medications, which allow the identification of new treatment episodes.

Two databases from Spain (BIFAP and SIDIAP) have been included in this study to increase the geographic coverage of the study population as the 2 databases do not cover the same regions.

This study could be replicated in the future to include additional databases either already onboarded (such as NLHR in Norway, with relevant sample size, but a current timing for ethics committee approval which would not make the study possible within the agreed milestones) or new onboarded ones in DARWIN EU pending they fulfil the selection criteria as outlined above.

Table 2 Description of the selected data sources.

Country	Name of Database	Justification for Inclusion	Health Care setting	Type of data	Number of active subjects*	Feasibility counts of exposure	Data lock for the last update
Belgium	IQVIA LPD Belgium	Covers primary setting where ADHD medication prescriptions are issued	Primary Care	EHR	279 k	atomoxetine: 200 guanfacine: 100 methylphenidate: 6,200	2024-04-11
Germany	IQVIA DA Germany	Covers primary care GPs and specialists setting where ADHD medication prescriptions are issued	Primary & Secondary Care	EHR	5.25 million	atomoxetine: 10,200 dextroamphetamine: 1,100 guanfacine: 2,100 lisdexamfetamine: 13,500 methylphenidate: 73,300	2023-12-31
The Netherlands	IPCI	Covers primary care setting where ADHD medication prescriptions are issued	Primary care	EHR	1.24 million	atomoxetine: 1,500 dextroamphetamine: 10,200 guanfacine: 300 lisdexamfetamine: 3,200 methylphenidate: 50,000	2024-06-30
Spain	BIFAP	Covers primary and secondary care setting where ADHD medication prescriptions are issued	Primary Care	EHR	16.1 million	atomoxetine: 1,300 methylphenidate: 30,200	2023-06-30
Spain	SIDIAP	Covers primary and secondary care setting where ADHD medication prescriptions are issued	Primary Care	EHR	5.94 million	Record counts when for all the others it was patient counts: atomoxetine: 14,900 guanfacine: 4,900 lisdexamfetamine: 13,200 methylphenidate: 151,300	2023-06-30
UK	CPRD	Covers primary care setting where ADHD medication prescriptions are issued	Primary Care	EHR	2.96 million	atomoxetine: 7,900 dextroamphetamine: 2,900 guanfacine: 1,300 lisdexamfetamine: 6,400 methylphenidate: 43,600	2024-06-15

**Number of active subjects are estimated by number of patients under observation as on 1st January 2023.*

1) IQVIA Longitudinal Patient Data Belgium [IQVIA LPD Belgium]

IQVIA Longitudinal Patient Data (LPD) Belgium is a database of pseudonymised electronic medical records from general practices (GPs) in Belgium since 2005.[2] The database encapsulates records of approximately 10% of Belgian patient population.

This patient-level database captures patient demographics, diagnoses (using a specific diagnostic coding system that can be bridged with ICD-10-CM codes). In addition, it encompasses medical history, prescription data (associated with a hard-coded diagnosis), as well as supplementary metrics such as anthropometric measures (height, weight), vital signs (blood pressure) and results from laboratory tests. All patients in the database are pseudonymised and can be followed longitudinally based on a unique identifier. Strict attention to confidentiality is present at every stage of data collection, storage and analysis in accordance with General Data Protection Regulation (GDPR)and Belgian Ethics Committees recommendations. IQVIA LPD Belgium database is nationally representative in terms of both geographical coverage and patient demographic characteristics, including age and sex.

2) IQVIA Disease Analyzer Germany [IQVIA DA]

IQVIA Disease Analyzer (DA) Germany is a database of de-identified electronic medical records from specialised and general primary practices in Germany since 1992.[3] This dataset encompasses approximately 3% of all outpatient practices within Germany, ensuring a substantial representation of the national healthcare landscape. The sampling methods used for practice selection, taking into account physician's demographics, specialty focus, community size category and federal state location, was instrumental in constructing a database that accurately mirrors the diverse spectrum of healthcare providers in the country. Consequently, data within IQVIA DA Germany database has been demonstrated to be representative of general and specialised practices throughout Germany.

The database contains demographics records, basic medical data, disease diagnosis according to International Classification of Diseases, 10th revision (ICD-10), and prescription records. While the database partly records information on deaths and procedures, it currently does not support linkage with external data sources. Routine updates are conducted at regular intervals. The quality of data is assessed based on several criteria including completeness of information and correctness (e.g. linkage between diagnosis and prescriptions).

3) Integrated Primary Care Information Project [IPCI], The Netherlands

The Integrated Primary Care Information (IPCI) database is a longitudinal observational database containing routinely collected data extracted from computer-based patient records of a selected group of general practitioners across the Netherlands.[4] IPCI was started in 1992 by the department of Medical Informatics of the Erasmus University Medical Center in Rotterdam. The current database includes patient records from 2006 onwards, when the size of the database started to increase significantly. The demographic composition of the IPCI population mirrors that of the general Dutch population in terms of age and sex. Although the geographical spread is limited, GP practices are located in urban and non-urban areas.

Patient-level data includes demographic information, patient's complaints and symptoms, diagnoses, laboratory test results, lifestyle factors and correspondence with secondary care, such as referral and discharge letters.

4) Base de Datos para la Investigación Farmacoepidemiológica en el Ámbito Público [Pharmacoepidemiological Research Database for Public Health Systems, BIFAP], Spain.

BIFAP (http://www.bifap.org) is a longitudinal population-based data source of medical patient records of the Spanish National Health Service (Sistema Nacional de Salud, SNS) from 10 participating regions

throughout Spain out of the 17 Spanish regions.[5] Population currently included represents 36% of the total Spanish population. Spain has a national health service that provides universal access to health services through the Regional Healthcare Services. Primary care physicians (PCPs), both general practitioners and paediatricians, have a central role. They act as gatekeepers of the system and also exchange information with other levels of care to ensure the continuity of care. Most (98.9%) of the population is registered with a PCP and, in addition, most drug prescriptions are written at the primary care level. BIFAP includes a collection of databases linked at individual patient level. The main one is the Primary care Database given the central role of PCPs in the SNS system. Additional important structural databases are also linked such as the medicines dispensed at community pharmacies and the patients' hospital diagnosis at discharge. BIFAP program is a non-profit program financed by the Spanish Agency of Medicines and Medical Devices (AEMPS), a government agency belonging to the Ministry of Health in collaboration with the regional health authorities.

5) Sistema d'Informació per al Desenvolupament de la Investigació en Atenció Primària [SIDIAP], Spain

The Information System for Research in Primary Care (SIDIAP) is a dynamic database of pseudo-anonymised electronic health records of the primary care patient population in Catalonia, Spain.[6] It contains data of approximately 80% of the Catalan population registered in over 280 primary care practices throughout Catalonia since 2005.

The database contains data recorded in primary care centres on a daily basis. Additionally, it integrates data from external sources including biomarkers data from laboratories and records of drug prescription and dispensation. The dataset covers demographics, all-cause mortality, disease diagnoses classified under ICD-10, prescription and dispensation records of drugs, results of laboratory tests, socio-economic indicators, vaccination records, lifestyle information, parent–child linkage and various clinical parameters. Additional data from other data sources such as hospital discharges, mental health centres or specific disease registries can be obtained through diverse linkages. The demographic composition within SIDIAP closely mirrors that of the broader Catalan population, encompassing a representative spectrum of geographic distribution, age, and sex proportions. The database is updated every 6 months.

6) Clinical Practice Research Datalink [CPRD], the UK

The Clinical Practice Research Datalink (CPRD) GOLD is a database of anonymised electronic health records (EHR) from General Practitioner (GP) clinics in the UK that use the Vision® software system for their management. The source population encompasses 98% of the UK, registered with GPs responsible for non-emergency care and referrals. Participating GPs provide CPRD EHR for all registered patients who did not specifically request to opt out of data sharing. Covering 4.6% of the current UK population, GOLD includes 4.9% of contributing GP practices, providing comprehensive information within its defined source population.[7] GOLD contains data from all four UK constituent countries and the current regional distribution of its GP practices (among the 4.9% in the UK) is 5.7% in England, 55.6% in Scotland, 28.4% in Wales, and 10.2% in Northern Ireland (May 2022). GOLD data include patient's demographic, biological measurements, clinical symptoms and diagnoses, referrals to specialist/hospital and their outcome, laboratory tests/results, and prescribed medications.

9.3 Study period

The study period was start on 1st January 2010 to mid or end of 2023 depends on the data availability of each participated database.

In the IQVIA LDP Belgium and IQVIA DA Germany data, the observation period is defined based of health care encounter. This has a strong impact towards the database end resulting in a much-reduced denominator as the full denominator depends on the frequency of visits including future visits that have

not yet taken place, which may lead to an inflated incidence rate. In these two databases, we only included the data until 6 months prior to the data cut (30-06-2023).

9.4 Follow-up

In the analysis of population-level DUS (Objectives 1 and 2), a denominator population was constructed using all eligible subjects in the databases. Subjects began contributing person-time on the respective date of the latest of the following: 1) study start date 2) date at which the 365 days data availability is reached, and 3) age 3 years old.

Subjects stopped contributing person-time at the earliest date of the following: 1) end of available data in each of the databases or 2) date at which the observation period of the specific person ended.

In the patient-level DUS analysis (Objectives 3 to 6), new users of ADHD medications were followed from the date of the first prescription to the earliest date of the following: 1) the last record of ADHD medication 2) end of available data in each of the databases or 3) date at which the observation period of the specific person ended.

9.5 Study population with in- and exclusion criteria

Population-level utilisation of ADHD medications: general population

All people aged 3 years and older [8], registered in the respective databases since the 1st of January of 2010 to 2023, with at least 365 days of prior data availability, were included in the population-level analysis of period prevalence and incidence of ADHD medications of interest.

Patient-level utilisation of ADHD medications: new user cohort

In objectives 3 and 4, new user cohort of each ADHD medication was created at drug substance level, using 365 days washout window in each of the databases. Five new user cohorts of the medications licensed for ADHD treatment were constructed separately: the stimulants dexamphetamine, lisdexamfetamine, and methylphenidate, and the non-stimulants atomoxetine and guanfacine.

In objectives 5 and 6, new users were identified using the first record of any of the ADHD medications of interest within the study period, having no previous records for ANY study medication any time prior to entry. The index date was defined as the date of the first eligible medication record.

We excluded subjects with missing data on sex or age.

9.6 Variables

9.6.1 Exposures

Table 3. Description of exposures.

Medication	Class	ATC code	Approved indication	Time of approval by EMA
Dexamphetamine	Stimulants	N06BA02	ADHD ≥ 6 years Narcolepsy	
Lisdexamfetamine	Stimulants	N06BA12	ADHD ≥ 6 years	2012
Methylphenidate	Stimulants	N06BA04	ADHD ≥ 6 years	
Atomoxetine	Non-stimulants	N06BA09	ADHD ≥ 6 years	2004-2005 (children and adolescents) 2013 (adults)

Guanfacine	Non-stimulants	C02AC02	ADHD 6-17 years old for whom stimulants are not suitable, not tolerated or have been shown to be ineffective	2015

9.6.2 Outcomes

No outcome variable has been included in this study.

9.6.3 Other covariates, including confounders, effect modifiers and other variables.

Covariates for stratification in population-level drug utilisation study

- Calendar time: month, quarter
- Age: children (aged 3–11 years), adolescents (12–17 years), young adults (18–24 years), and adults (≥25 years) [9]
- Age wider group: children (aged 3–17 years) and adults (≥ 18 years)
- Sex: female, male

Covariates for patient-level drug utilisation study

Indication conditions of the target ADHD medications include:

- ADHD
- Narcolepsy
- Potential Off-label conditions [10,11]:
    - Addictions
    - Apathy
    - Autism
    - Behavioural disorders (exclude ADHD)
    - Cognitive dysfunction (exclude dementia)
    - Dementia
    - Eating disorders
    - Fatigue
    - Intellectual disability
    - Major depression disorder
    - Mood disorders (exclude major depressive disorder)
    - Post-traumatic brain injury

The conditions have been defined by concept sets. List of OMOP concept IDs for ADHD, narcolepsy and the potential off-label conditions are available in the appendix table.

9.7 Study size

No formal sample size has been estimated for this study. However, based on the feasibility assessment performed before the initiation of the study, the expected total number of new users of each ADHD medications of interest has been the following across all databases:

- atomoxetine: IQVIA-LPD Belgium: 200; IQVIA-DA Germany: 10,200, IPCI: 1500; BIFAP: 1,300; CPRD: 7,900
- dextroamphetamine: IQVIA-DA Germany: 1,100; IPCI: 10,200; CPRD: 2,900
- guanfacine: IQVIA-LPD Belgium: 100; IQVIA-DA Germany: 2,100; IPCI: 300; CPRD: 1,300

- lisdexamfetamine: IQVIA-DA Germany: 13,500; IPCI: 3,200; CPRD GOLD: 6,400
- methylphenidate: IQVIA-LPD Belgium: 6,200; IQVIA-DA Germany: 73,300; IPCI: 50,000; BIFAP: 30,200; CPRD: 43,600

These numbers were estimated based on the number of unique patients with a target medication recorded, without applying any inclusion or exclusion criteria, and were not limited to the study period.

In SIDIAP, only the number of records of the medication, rather than number of unique patients were available: atomoxetine: 14900, guanfacine: 4900, lisdexamfetamine: 13200, methylphenidate: 151300.

9.8 Data transformation

Before executing the study code, we used the DrugExposureDiagnostics R Package (https://darwin-eu.github.io/DrugExposureDiagnostics/) to summarise the ingredient specific drug exposure data of each database. The results from the diagnostics provided detailed information related to drug dose, form, and days of supply, which informed us whether a database have sufficient information for the patient level DUS analysis.

9.9 Statistical methods

9.9.1 Construction of treatment episodes and sequence

Medication record and treatment episode: In the OMOP CDM data, ADHD medications have been recorded in the "drug_exposure" table. Each row of the data represents a prescription/ dispensing and comprises of a start date (e.g. a start date of a prescription, the date a prescription was filled, or the date on which a Drug administration was recorded.) and an end date (if not explicitly available in the source data, inferred from duration of days' supply) of that drug exposure, which allows to estimate the duration of this drug exposure. The start and end dates were defined during the ETL process of data mapping and differs between databases, and detailed conventions of these variables are available at: https://ohdsi.github.io/CommonDataModel/cdm54.html#drug_exposure. To construct the treatment episode of a specific medication, we first identified the first record of the medication and using the exposure start date as the index date. Subsequent drug exposure records have been combined into continuous treatment episodes using a pre-defined gap of 30 days (grace period). [12]

9.9.2 Statistical analysis plan per objective

Objective 1: Prevalence

Prevalence was calculated as monthly and yearly period prevalence which summarises the total number of users of the drug of interest during a given calendar month/ year divided by the population under observation during that month/ year. Therefore, period prevalence gives the proportion of users at any time during a specified interval. We did not require the denominator population to be under observation for the entire month/ year. Binomial 95% confidence intervals have been calculated.

The analysis was stratified by age group and sex.

Objective 2: Incidence

Monthly incidence rates of each ADHD medication of interest were calculated as the of number of new users per 100,000 person-years of the population at risk of getting exposed during the period for each calendar month (e.g. 1st January – 31st January). Incidence rates were also calculated as quarterly and yearly. Those study participants who entered the denominator population then contributed time at risk up to their first use (prescription or dispensation) during the study period, or if they did not have a drug

exposure, they contributed time at risk up as described above in section 8.3 Study period and 8.4 Follow-up. Incidence rates have been given together with 95% Poisson exact confidence intervals.

The analysis was stratified by age group and sex.

Objective 3: Indication

We assessed the indications of the study medication using four different windows: on index date, within 7 days before index, within 30 days before index, and within 90 days before index.[13,14] Indications have been presented as number and percentage of patients with a record of the respective indication.

The analysis was stratified by age group, sex, quarter by year, and age group by year.

Objective 4: Initial dose, cumulative dose, treatment duration, and number of prescriptions at treatment episode level

As explained in the section 9.9.1, a grace period of 30 days was used to define the treatment episode of each ADHD medication at drug substance level. Among the new user cohort of each ADHD medicine (treatment episodes fulfilled the requirement of not having the same ADHD medication during the 365 days before index), initial dose and cumulative dose was assessed at ingredient level for the initial medication. In the calculation of the cumulative daily dose, when there were gaps (<30 days) between two drug exposure records, we assumed that the daily dose during the gap period was zero. When there are overlaps between drug exposure record, we assumed that the overlap time was exposed to the first exposure. Treatment duration was summarised providing the minimum, p25, median, p75, and maximum treatment duration. The number of prescriptions within the drug ingredient level treatment episode have been reported.

The analysis was stratified by age, sex, time, and indications identified from objective 3.

Objective 5: Total treatment duration and number of prescriptions

For this objective, new user of any ADHD medication has been followed until the last drug record. Total treatment duration has been calculated as the days between the first initiation of any ADHD medication, till the last recorded ADHD medication. Number of prescriptions during this period has been reported as total, and at drug substance level.

The analysis was stratified by the initial medication.

Objective 6: treatment pathway

Individuals who started any ADHD medication were followed up from the date of first medication of interest, to the last record of any study medication. The analysis was stratified by age groups, sex, and year of initiation.

Baseline characteristics were summarised using data-driven method.

The treatment pathway was constructed using the standardised method using the “TreatmentPatterns” R Package [15]. The following figure explains how treatment combination has been defined. The minimum overlap of different treatments to be considered as combination treatment (combinationWindow) is 30 days in the purposed study.

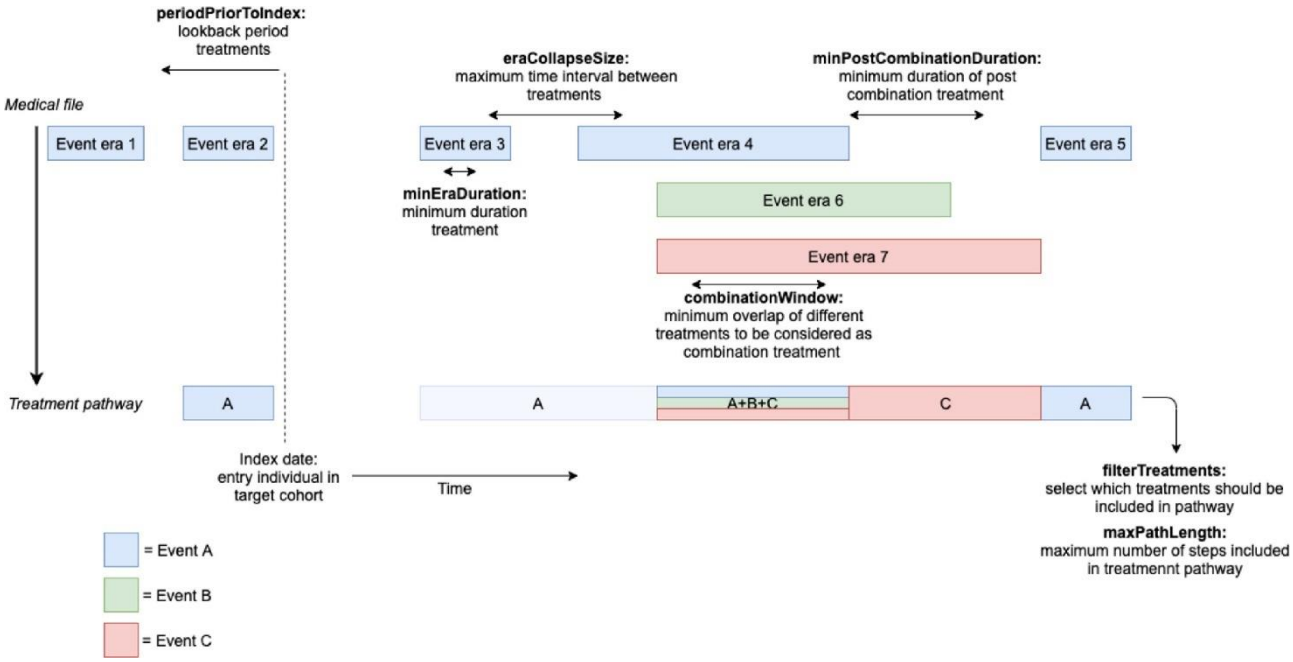


Figure 1. Parameters in TreatmentPatterns package.

The following parameters have been defined in this study. The target cohort refers to the new user cohort of any ADHD medication, whereas the event(s) refer to treatment(s) of interest.

Table 4. Parameters used in treatment pattern analysis.

Individual pathway settings		
periodPriorToIndex	The period (number of days) prior to the index date of the target cohort from which treatments should be included	0 (not relevant as cohort entry start at treatment initiation)
minEraDuration	Minimum time an event era should last to be included in the analysis	1 day
eraCollapseSize	Maximum gap within two eras of the same event cohort which would still allow the eras to be collapsed into one era	30 days (in line with the grace period, 90 in sensitivity analysis)
combinationWindow	Time that two event eras need to overlap to be considered a combination treatment	28 days
minPostCombinationDuration	Minimum time that an event era before or after a generated combination treatment should last to be included in the pathway as a separate treatment	0 day
filterTreatments	Select which treatments should be included in pathway first time occurrences of treatments ('First'), remove sequential repeated treatments ('Changes'), all treatments ('All')	First
maxPathLength	Maximum number of treatments included in pathway	5
Aggregate pathway settings		
groupCombinations	Select to group all non-fixed combinations in one category 'other' in the sunburst plot	TRUE / 10

9.9.3 Sensitivity analysis

ADHD population is known to take drug holidays and temporarily interrupt their treatment, which do not necessarily signify discontinuation of medication use. [16,17] Therefore in the sensitivity analysis, instead of allowing a 30-day gap between drug exposure records, a 90-day gap has been used in constructing treatment episode. [18]

Table 5. Sensitivity analysis – rationale, strengths and limitations.

	What is being varied? How?	Why? What do you expect to learn?	Strengths of the sensitivity analysis compared to the primary	Limitations of the sensitivity analysis compared to the primary
Gap between drug exposure	Allow 90-day gap between records of drug exposure	Patients, especially kids, may take drug holidays on purpose rather than discontinue	Capture longer treatment period	Treatment episodes may not reflect the real drug utilisation

9.9.4 Deviation from original protocol

Indications and groups:

In objective 3, where we aimed to identify the initial indication of the prescribing/dispensing, we originally planned to use all potential indications and off-label conditions and assessed them with four different time windows: on index date, 7, 30, and 90 days prior to index. In the analysis, we found that the off-label use was very rare, and the planned analysis would generate an extremely large number of results (>10 GB per database). Therefore, we only assessed all potential indications using the 7 days prior window. We then grouped the off-label conditions together and finally assessed only three indication/ indication groups (ADHD, narcolepsy, and any off label) within the four different time windows.

Proportion of patients covered:

We reported the proportion of patients covered (PPC), which measures the proportion of live patients currently covered by treatment on a given day after treatment initiation. [19] This method has been used to study treatment persistence and is less sensitive to changes in grace periods.

Database BIFAP not included in the study:

We did not include results from BIFAP into this study due to technical issues (as of now still unresolved) running the existing analytic R packages on their database management system.

Cohort of any ADHD medication, and overall age group:

Apart from the five study medication cohorts, we included a cohort of people using any of the five study medications for objectives 1 to 3. We also included a group of patients aged 3 years or older apart from the defined age groups.

10. DATA MANAGEMENT

All databases have been mapped to the OMOP common data model. This enables the use of standardised analytics and tools across the network since the structure of the data and the terminology system is harmonised. The OMOP CDM is developed and maintained by the Observational Health Data Sciences and Informatics (OHDSI) initiative and is described in detail on the wiki page of the CDM:

https://ohdsi.github.io/CommonDataModel and in The Book of OHDSI: http://book.ohdsi.org. This analytic code for this study has been written in R. Each data partner executed the study code against their database containing patient-level data and then returned the results set which only contains aggregated data. The results from each of the contributing databases were then combined in tables and figures for the study report.

11. QUALITY CONTROL

General database quality control

A number of open-source quality control mechanisms for the OMOP CDM have been developed (see Chapter 15 of The Book of OHDSI http://book.ohdsi.org/DataQuality.html). In particular, it is expected that data partners run the OHDSI Data Quality Dashboard tool (https://github.com/OHDSI/DataQualityDashboard). This tool provides numerous checks relating to the conformance, completeness and plausibility of the mapped data. Conformance focuses on checks that describe the compliance of the representation of data against internal or external formatting, relational, or computational definitions, completeness in the sense of data quality is solely focused on quantifying missingness, or the absence of data, while plausibility seeks to determine the believability or truthfulness of data values. Each of these categories has one or more subcategories and are evaluated in two contexts: validation and verification. Validation relates to how well data align with external benchmarks with expectations derived from known true standards, while verification relates to how well data conform to local knowledge, metadata descriptions, and system assumptions.

Study specific quality control

When defining drug cohorts, non-systemic products have been excluded from the list of included codes summarised on the ingredient level. A pharmacist reviewed the codes of the ADHD medications of interest.

Before executing the study code, we used the DrugExposureDiagnostics R Package (https://darwin-eu.github.io/DrugExposureDiagnostics/) to summarise the ingredient specific drug exposure data of each database. The results from the diagnostics provided detailed information related to drug dose, form, and days of supply, which informed us whether a database have sufficient information for the patient level DUS analysis.

When defining cohorts for indications, a systematic search of possible codes for inclusion has been identified using CodelistGenerator R package (https://github.com/darwin-eu/CodelistGenerator). This software allows the user to define a search strategy and using this, then query the vocabulary tables of the OMOP common data model to find potentially relevant codes.

12. RESULTS

All results for each individual drug and database are available in the Shiny app at: https://data-dev.darwin-eu.org/connect/#/apps/fbdcfcc0-63a6-4f0b-8d50-baba9281da40/

12.1 Participants

We included a total of 198,167 individuals who initiated any ADHD medication across all databases during the study period. (IQVIA LPD Belgium: 4,689; IQVIA DA Germany: 46,414; IPCI: 51,796; SIDIAP: 64,039; CPRD GOLD: 31,229)

In the IQVIA LPD Belgium data, only atomoxetine, guanfacine, and methylphenidate were identified, with 104; 25; and 4,610 individuals initiated the medicines during the study period. An individual can initiate more than one study medications if the washout requirement was met.

In the IQVIA DA Germany data, the number of individuals who started atomoxetine, dextroamphetamine, guanfacine, lisdexamfetamine, and methylphenidate during the study period were 4,662; 781; 1,442; 9,075 and 40,114 respectively.

In IPCI, the number of individuals who started atomoxetine, dextroamphetamine, guanfacine, lisdexamfetamine, and methylphenidate were 1,276; 10,015; 246; 3,914; and 46,529 respectively.

In SIDIAP, the number of individuals who started atomoxetine, guanfacine, lisdexamfetamine, and methylphenidate were 8,215; 3,232; 8,651; and 59,354 respectively. Dextroamphetamine was not found in this database.

In CPRD GOLD, the number of individuals who started atomoxetine, dextroamphetamine, guanfacine, lisdexamfetamine, and methylphenidate were 5,075; 1,372; 1,355; 6,279; and 26,245 respectively.

12.2 Descriptive data

Tables 6 to 10 below described the baseline characteristics of individuals who initiated one of the medications of interest during the study period.

In IQVIA LPD Belgium data, initiators of atomoxetine had a median age of 25 [IQR 15-39], while the median age of methylphenidate user was 19 [IQR 13-29]. Common comorbidities included anxiety, asthma, depression, and other mood disorders. People initiated atomoxetine had higher comorbidities compared to other two medications.

In IQVIA DA Germany data, there were more male users than female users, and median age of users was similar across different medications. Behavioural disorders (22% for methylphenidate to 48% for guanfacine) and depression (7% for guanfacine to 26% for atomoxetine) were the most prevalent comorbidities.

In IPCI, like other databases, users were predominantly male for all five medications. Initiators of guanfacine had a lower median age of 12 [IQR 9-15] as compared to dextroamphetamine (median age of 26 [IQR 17 - 37] and lisdexamfetamine (median age of 23 [IQR 14 - 36]). The most frequent comorbidity was anxiety, followed by fatigue.

In SIDIAP, new users of all study medications were predominantly male, ranging from 67% in methylphenidate to 78% in guanfacine. The median age was similar across the four medications, ranging from 12 for guanfacine to 15 for lisdexamfetamine. Anxiety, behavioural disorders, and obesity were the most common comorbidities for all four drugs.

In CPRD GOLD, new users of all study medications were predominantly male, ranging from 63% in dextroamphetamine to 79% in guanfacine. The median age of methylphenidate user was 13 [IQR 9 - 20] while dextroamphetamine was used among an older population, with a median age of 23 [IQR 13 - 37]. Among users of all medications, anxiety was the most prevalent comorbidity, followed by autism, asthma, and depression.

Table 6. Cohort characteristics of ADHD medication user: IQVIA Belgium.

			CDM name			
			IQVIA LPD Belgium			
			Cohort name			
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Methylphenidate
Number records	-	N	5,805	120	25	5,700
Number subjects	-	N	4,689	104	25	4,610
Cohort start date	-	Median	2020-01-09	2018-07-19	2020-04-15	2020-01-17
Cohort end date	-	Median	2020-03-04	2018-09-12	2020-06-10	2020-03-15
Age	-	Median [Q25 - Q75]	19 [13 - 29]	25 [15 - 39]	12 [9 - 15]	19 [13 - 29]
Age group	3 to 11	N (%)	1,024 (18%)	14 (12%)	12 (48%)	1,007 (18%)
	12 to 17	N (%)	1,556 (27%)	27 (22%)	10 (40%)	1,526 (27%)
	18 to 24	N (%)	1,417 (24%)	19 (16%)	<5 (<5%)	1,406 (25%)
	25 to 150	N (%)	1,808 (31%)	60 (50%)	<5 (<5%)	1,761 (31%)
Sex	Female	N (%)	2,074 (36%)	45 (38%)	6 (24%)	2,034 (36%)
	Male	N (%)	3,731 (64%)	75 (62%)	19 (76%)	3,666 (64%)
Prior observation	-	Median [Q25 - Q75]	1,358 [698 - 2,197]	1,292 [745 - 1,989]	1,653 [1,265 - 2,206]	1,362 [700 - 2,200]
Future observation	-	Median [Q25 - Q75]	864 [349 - 1,625]	1,180 [344 - 1,912]	1,101 [455 - 1,583]	863 [349 - 1,616]
Days in cohort	-	Median [Q25 - Q75]	30 [20 - 67]	28 [28 - 65]	28 [28 - 57]	30 [20 - 67]
Comorbidity	Osteoarthritis	N (%)	287 (5%)	<5 (<5%)	0 (0%)	285 (5%)
	Asthma	N (%)	999 (17%)	16 (13%)	5 (20%)	985 (17%)
	Hypertension	N (%)	311 (5%)	13 (11%)	<5 (<5%)	300 (5%)
	Gastroesophageal reflux disease	N (%)	543 (9%)	15 (12%)	<5 (<5%)	530 (9%)
	Anxiety	N (%)	762 (13%)	22 (18%)	<5 (<5%)	749 (13%)
	Chronic liver disease	N (%)	5 (0%)	0 (0%)	0 (0%)	5 (0%)
	Schizophrenia	N (%)	59 (1%)	<5 (<5%)	0 (0%)	58 (1%)
	Psoriasis	N (%)	108 (2%)	<5 (<5%)	0 (0%)	106 (2%)

			CDM name IQVIA LPD Belgium Cohort name			
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Methylphenidate
	Post traumatic brain injury	N (%)	49 (1%)	<5 (<5%)	0 (0%)	47 (1%)
	Crohn's disease	N (%)	10 (0%)	0 (0%)	0 (0%)	10 (0%)
	Parkinson	N (%)	11 (0%)	0 (0%)	0 (0%)	11 (0%)
	Eating disorder	N (%)	19 (0%)	<5 (<5%)	0 (0%)	18 (0%)
	Renal impairment	N (%)	5 (0%)	0 (0%)	0 (0%)	5 (0%)
	Depression	N (%)	1,027 (18%)	45 (38%)	5 (20%)	989 (17%)
	Cognitive dysfunction	N (%)	75 (1%)	0 (0%)	0 (0%)	75 (1%)
	Hyperlipidaemia	N (%)	182 (3%)	<5 (<5%)	0 (0%)	178 (3%)
	Malignancy	N (%)	42 (1%)	<5 (<5%)	0 (0%)	42 (1%)
	COPD	N (%)	534 (9%)	6 (5%)	5 (20%)	527 (9%)
	Fatigue	N (%)	337 (6%)	<5 (<5%)	<5 (<5%)	335 (6%)
	Hepatitis	N (%)	8 (0%)	<5 (<5%)	0 (0%)	7 (0%)
	Narcolepsy	N (%)	45 (1%)	0 (0%)	0 (0%)	45 (1%)
	Major depressive disorder	N (%)	66 (1%)	<5 (<5%)	<5 (<5%)	62 (1%)
	Pneumonia	N (%)	181 (3%)	<5 (<5%)	0 (0%)	179 (3%)
	Behavioural disorder	N (%)	<5 (<5%)	0 (0%)	0 (0%)	<5 (<5%)
	Autism	N (%)	176 (3%)	<5 (<5%)	<5 (<5%)	174 (3%)
	Dementia	N (%)	11 (0%)	0 (0%)	0 (0%)	11 (0%)
	Urinary tract infectious disease	N (%)	198 (3%)	<5 (<5%)	0 (0%)	197 (3%)
	Diabetes	N (%)	108 (2%)	<5 (<5%)	0 (0%)	105 (2%)
	Obesity	N (%)	72 (1%)	<5 (<5%)	0 (0%)	71 (1%)
	Gastrointestinal hemorrhage	N (%)	7 (0%)	0 (0%)	0 (0%)	7 (0%)
	Mood disorders	N (%)	1,050 (18%)	46 (38%)	5 (20%)	1,012 (18%)
	Collitis	N (%)	6 (0%)	0 (0%)	0 (0%)	6 (0%)

			CDM name IQVIA LPD Belgium Cohort name			
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Methylphenidate
	HIV	N (%)	11 (0%)	0 (0%)	0 (0%)	11 (0%)
	Addiction	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Apathy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Intellectual disability	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medications	Beta blocking agents	N (%)	319 (5%)	18 (15%)	<5 (<5%)	305 (5%)
	Antiepileptics	N (%)	314 (5%)	9 (8%)	<5 (<5%)	306 (5%)
	Drug diuretics	N (%)	107 (2%)	5 (4%)	<5 (<5%)	101 (2%)
	Drugs used in diabetes	N (%)	108 (2%)	<5 (<5%)	0 (0%)	106 (2%)
	Psycholeptics	N (%)	1,440 (25%)	48 (40%)	7 (28%)	1,402 (25%)
	Antibacterials	N (%)	3,283 (57%)	62 (52%)	15 (60%)	3,230 (57%)
	Lipid modifying agents	N (%)	169 (3%)	<5 (<5%)	<5 (<5%)	164 (3%)
	Antineoplastic agents	N (%)	47 (1%)	<5 (<5%)	0 (0%)	46 (1%)
	Immunosuppressants	N (%)	23 (0%)	0 (0%)	0 (0%)	23 (0%)
	Drugs for acid related disorders	N (%)	1,218 (21%)	32 (27%)	<5 (<5%)	1,195 (21%)
	Drugs for obstructive airway diseases	N (%)	2,076 (36%)	38 (32%)	11 (44%)	2,043 (36%)
	Opioids	N (%)	866 (15%)	17 (14%)	<5 (<5%)	856 (15%)
	Antiinflammatory and antirheumatic products	N (%)	2,523 (43%)	49 (41%)	10 (40%)	2,480 (44%)
	Antipsoriatics	N (%)	5 (0%)	0 (0%)	0 (0%)	5 (0%)
	Agents acting on the renin angiotensin system	N (%)	141 (2%)	<5 (<5%)	<5 (<5%)	137 (2%)
	Calcium channel blockers	N (%)	85 (1%)	<5 (<5%)	<5 (<5%)	83 (1%)
	Antidepressants	N (%)	1,078 (19%)	40 (33%)	5 (20%)	1,046 (18%)
	Antithrombotic agents	N (%)	68 (1%)	<5 (<5%)	0 (0%)	69 (1%)

Table 7. Cohort characteristics of ADHD medication user: IQVIA DA Germany.

			CDM name: IQVIA DA Germany; Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Number records	-	N	52,901	4,893	844	1,515	9,794	45,517
Number subjects	-	N	46,414	4,662	781	1,442	9,075	40,114
Cohort start date	-	Median	2017-12-08	2016-09-01	2019-02-01	2019-11-20	2020-07-09	2017-07-03
Cohort end date	-	Median	2018-06-02	2017-01-10	2019-06-12	2020-06-29	2020-12-16	2017-12-08
Age	-	Median [Q25 - Q75]	14 [10 - 24]	14 [11 - 26]	12 [10 - 16]	11 [9 - 14]	14 [11 - 26]	14 [10 - 24]
Age group	3 to 11	N (%)	17,756 (34%)	1,593 (33%)	356 (42%)	798 (53%)	2,831 (29%)	15,916 (35%)
	12 to 17	N (%)	15,795 (30%)	1,451 (30%)	323 (38%)	644 (43%)	3,281 (34%)	13,424 (29%)
	18 to 24	N (%)	6,309 (12%)	516 (11%)	35 (4%)	48 (3%)	1,036 (11%)	5,336 (12%)
	25 to 150	N (%)	13,041 (25%)	1,333 (27%)	130 (15%)	25 (2%)	2,646 (27%)	10,841 (24%)
Sex	Female	N (%)	15,403 (29%)	1,462 (30%)	172 (20%)	301 (20%)	2,782 (28%)	13,206 (29%)
	Male	N (%)	37,484 (71%)	3,431 (70%)	672 (80%)	1,214 (80%)	7,011 (72%)	32,298 (71%)
Prior observation	-	Median [Q25 - Q75]	1,087 [536 - 2,389]	1,249 [634 - 2,400]	1,556 [778 - 2,749]	1,497 [750 - 2,616]	1,320 [650 - 2,524]	1,098 [537 - 2,402]
Future observation	-	Median [Q25 - Q75]	889 [349 - 1,791]	881 [339 - 1,846]	955 [425 - 1,718]	794 [324 - 1,476]	694 [302 - 1,330]	958 [381 - 1,881]
Days in cohort	-	Median [Q25 - Q75]	63 [50 - 167]	60 [28 - 164]	50 [30 - 122]	76 [28 - 208]	67 [30 - 176]	63 [50 - 163]
Comorbidity	Gastroesophageal reflux disease	N (%)	410 (1%)	52 (1%)	7 (1%)	14 (1%)	63 (1%)	352 (1%)
	Anxiety	N (%)	8,076 (15%)	959 (20%)	106 (13%)	231 (15%)	1,983 (20%)	6,643 (15%)
	HIV	N (%)	39 (0%)	5 (0%)	<5 (<5%)	<5 (<5%)	9 (0%)	29 (0%)

			CDM name IQVIA DA Germany Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Asthma	N (%)	3,673 (7%)	357 (7%)	68 (8%)	126 (8%)	580 (6%)	3,231 (7%)
	Hyperlipidaemia	N (%)	856 (2%)	58 (1%)	14 (2%)	20 (1%)	125 (1%)	727 (2%)
	Hypertension	N (%)	1,101 (2%)	127 (3%)	18 (2%)	29 (2%)	175 (2%)	902 (2%)
	Autism	N (%)	2,463 (5%)	247 (5%)	66 (8%)	225 (15%)	642 (7%)	1,975 (4%)
	Hepatitis	N (%)	164 (0%)	13 (0%)	<5 (<5%)	<5 (<5%)	18 (0%)	145 (0%)
	Diabetes	N (%)	558 (1%)	50 (1%)	10 (1%)	12 (1%)	92 (1%)	466 (1%)
	Behavioural disorder	N (%)	12,013 (23%)	1,405 (29%)	332 (39%)	730 (48%)	3,015 (31%)	10,197 (22%)
	Gastrointestinal hemorrhage	N (%)	120 (0%)	9 (0%)	<5 (<5%)	<5 (<5%)	16 (0%)	106 (0%)
	Major depressive disorder	N (%)	6,365 (12%)	850 (17%)	75 (9%)	42 (3%)	1,640 (17%)	5,085 (11%)
	Post traumatic brain injury	N (%)	684 (1%)	58 (1%)	10 (1%)	27 (2%)	107 (1%)	612 (1%)
	Malignancy	N (%)	346 (1%)	38 (1%)	<5 (<5%)	5 (0%)	32 (0%)	297 (1%)
	Pneumonia	N (%)	2,290 (4%)	178 (4%)	34 (4%)	86 (6%)	352 (4%)	2,094 (5%)
	Schizophrenia	N (%)	275 (1%)	58 (1%)	7 (1%)	<5 (<5%)	49 (1%)	206 (0%)
	Renal impairment	N (%)	158 (0%)	16 (0%)	5 (1%)	<5 (<5%)	19 (0%)	128 (0%)
	Mood disorders	N (%)	6,989 (13%)	892 (18%)	94 (11%)	120 (8%)	1,692 (17%)	5,697 (13%)
	Narcolepsy	N (%)	431 (1%)	18 (0%)	20 (2%)	<5 (<5%)	68 (1%)	385 (1%)
	Depression	N (%)	10,025 (19%)	1,282 (26%)	127 (15%)	104 (7%)	2,299 (23%)	8,121 (18%)
	Fatigue	N (%)	1,540 (3%)	128 (3%)	26 (3%)	32 (2%)	228 (2%)	1,319 (3%)
	Dementia	N (%)	124 (0%)	15 (0%)	6 (1%)	5 (0%)	24 (0%)	102 (0%)
	Obesity	N (%)	2,572 (5%)	211 (4%)	44 (5%)	75 (5%)	490 (5%)	2,214 (5%)
	Collitis	N (%)	59 (0%)	<5 (<5%)	0 (0%)	0 (0%)	10 (0%)	53 (0%)
	Parkinson	N (%)	51 (0%)	<5 (<5%)	0 (0%)	<5 (<5%)	<5 (<5%)	46 (0%)
	Chronic liver disease	N (%)	47 (0%)	<5 (<5%)	<5 (<5%)	0 (0%)	8 (0%)	40 (0%)

			CDM name IQVIA DA Germany Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Osteoarthritis	N (%)	728 (1%)	92 (2%)	9 (1%)	8 (1%)	93 (1%)	594 (1%)
	Intellectual disability	N (%)	1,523 (3%)	185 (4%)	26 (3%)	112 (7%)	325 (3%)	1,230 (3%)
	Cognitive dysfunction	N (%)	201 (0%)	50 (1%)	<5 (<5%)	8 (1%)	42 (0%)	158 (0%)
	COPD	N (%)	2,942 (6%)	266 (5%)	46 (5%)	123 (8%)	467 (5%)	2,596 (6%)
	Eating disorder	N (%)	1,059 (2%)	110 (2%)	14 (2%)	35 (2%)	219 (2%)	889 (2%)
	Psoriasis	N (%)	223 (0%)	17 (0%)	<5 (<5%)	13 (1%)	39 (0%)	184 (0%)
	Crohn's disease	N (%)	74 (0%)	8 (0%)	<5 (<5%)	<5 (<5%)	12 (0%)	61 (0%)
	Urinary tract infectious disease	N (%)	2,106 (4%)	203 (4%)	30 (4%)	77 (5%)	283 (3%)	1,852 (4%)
	Addiction	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Apathy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medications	Antiepileptics	N (%)	1,734 (3%)	242 (5%)	30 (4%)	33 (2%)	365 (4%)	1,422 (3%)
	Calcium channel blockers	N (%)	215 (0%)	25 (1%)	<5 (<5%)	<5 (<5%)	26 (0%)	180 (0%)
	Agents acting on the renin angiotensin system	N (%)	515 (1%)	48 (1%)	6 (1%)	10 (1%)	67 (1%)	425 (1%)
	Lipid modifying agents	N (%)	248 (0%)	22 (0%)	<5 (<5%)	<5 (<5%)	33 (0%)	209 (0%)
	Antidepressants	N (%)	8,512 (16%)	1,095 (22%)	108 (13%)	94 (6%)	2,054 (21%)	6,896 (15%)
	Drugs for obstructive airway diseases	N (%)	7,190 (14%)	652 (13%)	125 (15%)	280 (18%)	1,112 (11%)	6,381 (14%)
	Psycholeptics	N (%)	7,270 (14%)	1,028 (21%)	194 (23%)	385 (25%)	1,904 (19%)	5,735 (13%)
	Antipsoriatics	N (%)	23 (0%)	<5 (<5%)	<5 (<5%)	<5 (<5%)	9 (0%)	18 (0%)
	Drugs for acid related disorders	N (%)	2,052 (4%)	209 (4%)	35 (4%)	34 (2%)	292 (3%)	1,711 (4%)
	Antineoplastic agents	N (%)	1,548 (3%)	127 (3%)	35 (4%)	69 (5%)	292 (3%)	1,366 (3%)
	Antiinflammatory and antirheumatic products	N (%)	13,087 (25%)	1,131 (23%)	224 (27%)	514 (34%)	2,026 (21%)	11,495 (25%)
	Antithrombotic agents	N (%)	271 (1%)	31 (1%)	<5 (<5%)	<5 (<5%)	33 (0%)	235 (1%)

			CDM name IQVIA DA Germany Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Drugs used in diabetes	N (%)	225 (0%)	21 (0%)	5 (1%)	<5 (<5%)	39 (0%)	178 (0%)
	Beta blocking agents	N (%)	652 (1%)	81 (2%)	10 (1%)	6 (0%)	109 (1%)	544 (1%)
	Drug diuretics	N (%)	247 (0%)	30 (1%)	<5 (<5%)	5 (0%)	30 (0%)	196 (0%)
	Immunosuppressants	N (%)	97 (0%)	0 (0%)	<5 (<5%)	0 (0%)	23 (0%)	80 (0%)
	Antibacterials	N (%)	12,336 (23%)	1,067 (22%)	201 (24%)	407 (27%)	1,696 (17%)	10,939 (24%)
	Opioids	N (%)	1,462 (3%)	127 (3%)	25 (3%)	25 (2%)	204 (2%)	1,249 (3%)

Table 8. Cohort characteristics of ADHD medication user: IPCI.

			CDM name IPCI Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Number records	-	N	61,946	1,350	11,198	252	4,056	54,992
Number subjects	-	N	51,796	1,276	10,015	246	3,914	46,529
Cohort start date	-	Median	2018-12-13	2019-04-24	2020-04-06	2021-09-07	2022-07-07	2018-09-18
Cohort end date	-	Median	2019-07-04	2019-11-14	2020-09-17	2022-02-03	2023-01-07	2019-03-31
Age	-	Median [Q25 - Q75]	20 [13 - 33]	16 [12 - 30]	26 [17 - 37]	12 [9 - 15]	23 [14 - 36]	19 [12 - 32]
Age group	3 to 11	N (%)	12,005 (19%)	314 (23%)	1,158 (10%)	110 (44%)	505 (12%)	11,626 (21%)
	12 to 17	N (%)	14,629 (24%)	415 (31%)	1,703 (15%)	108 (43%)	1,023 (25%)	13,736 (25%)
	18 to 24	N (%)	11,537 (19%)	199 (15%)	2,281 (20%)	11 (4%)	616 (15%)	10,057 (18%)

			CDM name IPCI Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	25 to 150	N (%)	23,775 (38%)	422 (31%)	6,056 (54%)	23 (9%)	1,912 (47%)	19,573 (36%)
Sex	Female	N (%)	24,826 (40%)	490 (36%)	5,281 (47%)	70 (28%)	2,021 (50%)	21,600 (39%)
	Male	N (%)	37,120 (60%)	860 (64%)	5,917 (53%)	182 (72%)	2,035 (50%)	33,392 (61%)
Prior observation	-	Median [Q25 - Q75]	1,311 [633 - 2,412]	1,480 [793 - 2,451]	1,552 [753 - 2,671]	2,332 [1,304 - 3,214]	2,238 [1,060 - 3,340]	1,319 [642 - 2,395]
Future observation	-	Median [Q25 - Q75]	1,122 [473 - 2,215]	1,057 [471 - 2,154]	934 [388 - 1,801]	669 [312 - 1,227]	531 [222 - 950]	1,157 [489 - 2,279]
Days in cohort	-	Median [Q25 - Q75]	83 [30 - 174]	84 [30 - 218]	57 [30 - 120]	86 [30 - 210]	83 [30 - 177]	78 [30 - 165]
Comorbidity	Psoriasis	N (%)	559 (1%)	13 (1%)	127 (1%)	<5 (<5%)	45 (1%)	486 (1%)
	Fatigue	N (%)	10,483 (17%)	260 (19%)	2,508 (22%)	48 (19%)	1,000 (25%)	9,005 (16%)
	Renal impairment	N (%)	216 (0%)	<5 (<5%)	35 (0%)	0 (0%)	18 (0%)	194 (0%)
	Obesity	N (%)	1,084 (2%)	30 (2%)	241 (2%)	5 (2%)	86 (2%)	923 (2%)
	Asthma	N (%)	4,357 (7%)	101 (7%)	864 (8%)	21 (8%)	286 (7%)	3,843 (7%)
	Parkinson	N (%)	9 (0%)	0 (0%)	<5 (<5%)	0 (0%)	0 (0%)	7 (0%)
	Osteoarthritis	N (%)	512 (1%)	9 (1%)	103 (1%)	0 (0%)	27 (1%)	436 (1%)
	Pneumonia	N (%)	1,938 (3%)	47 (3%)	346 (3%)	11 (4%)	154 (4%)	1,749 (3%)
	Hepatitis	N (%)	97 (0%)	<5 (<5%)	28 (0%)	0 (0%)	12 (0%)	79 (0%)
	Major depressive disorder	N (%)	1,165 (2%)	29 (2%)	369 (3%)	0 (0%)	161 (4%)	983 (2%)
	HIV	N (%)	25 (0%)	<5 (<5%)	6 (0%)	0 (0%)	<5 (<5%)	19 (0%)
	Autism	N (%)	3,013 (5%)	144 (11%)	559 (5%)	38 (15%)	273 (7%)	2,683 (5%)
	Hypertension	N (%)	1,523 (2%)	31 (2%)	359 (3%)	<5 (<5%)	118 (3%)	1,273 (2%)
	Depression	N (%)	5,221 (8%)	110 (8%)	1,438 (13%)	11 (4%)	524 (13%)	4,336 (8%)
	Chronic liver disease	N (%)	32 (0%)	0 (0%)	10 (0%)	0 (0%)	<5 (<5%)	27 (0%)

			CDM name IPCI Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Post traumatic brain injury	N (%)	221 (0%)	8 (1%)	42 (0%)	<5 (<5%)	22 (1%)	204 (0%)
	Mood disorders	N (%)	4,822 (8%)	107 (8%)	1,298 (12%)	11 (4%)	466 (11%)	3,987 (7%)
	Eating disorder	N (%)	454 (1%)	11 (1%)	117 (1%)	<5 (<5%)	54 (1%)	385 (1%)
	Behavioural disorder	N (%)	389 (1%)	13 (1%)	80 (1%)	<5 (<5%)	46 (1%)	359 (1%)
	Intellectual disability	N (%)	371 (1%)	11 (1%)	41 (0%)	<5 (<5%)	18 (0%)	348 (1%)
	Gastroesophageal reflux disease	N (%)	417 (1%)	7 (1%)	81 (1%)	<5 (<5%)	38 (1%)	375 (1%)
	COPD	N (%)	301 (0%)	<5 (<5%)	49 (0%)	0 (0%)	9 (0%)	261 (0%)
	Schizophrenia	N (%)	67 (0%)	<5 (<5%)	11 (0%)	0 (0%)	<5 (<5%)	59 (0%)
	Urinary tract infectious disease	N (%)	4,384 (7%)	83 (6%)	993 (9%)	14 (6%)	410 (10%)	3,829 (7%)
	Diabetes	N (%)	784 (1%)	15 (1%)	139 (1%)	<5 (<5%)	40 (1%)	685 (1%)
	Collitis	N (%)	158 (0%)	<5 (<5%)	40 (0%)	0 (0%)	16 (0%)	129 (0%)
	Anxiety	N (%)	14,870 (24%)	316 (23%)	3,738 (33%)	40 (16%)	1,402 (35%)	12,539 (23%)
	Dementia	N (%)	31 (0%)	0 (0%)	<5 (<5%)	0 (0%)	0 (0%)	27 (0%)
	Hyperlipidaemia	N (%)	650 (1%)	14 (1%)	126 (1%)	<5 (<5%)	37 (1%)	564 (1%)
	Crohn's disease	N (%)	166 (0%)	<5 (<5%)	43 (0%)	0 (0%)	15 (0%)	134 (0%)
	Malignancy	N (%)	858 (1%)	<5 (<5%)	144 (1%)	<5 (<5%)	27 (1%)	752 (1%)
	Gastrointestinal hemorrhage	N (%)	891 (1%)	23 (2%)	221 (2%)	<5 (<5%)	75 (2%)	752 (1%)
	Cognitive dysfunction	N (%)	2,233 (4%)	31 (2%)	440 (4%)	8 (3%)	141 (3%)	1,976 (4%)
	Addiction	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Apathy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Narcolepsy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medications	Opioids	N (%)	4,967 (8%)	109 (8%)	1,174 (10%)	6 (2%)	400 (10%)	4,276 (8%)
	Antithrombotic agents	N (%)	2,337 (4%)	45 (3%)	493 (4%)	<5 (<5%)	177 (4%)	2,031 (4%)

			CDM name IPCI Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Antineoplastic agents	N (%)	659 (1%)	14 (1%)	148 (1%)	0 (0%)	59 (1%)	577 (1%)
	Calcium channel blockers	N (%)	935 (2%)	16 (1%)	216 (2%)	<5 (<5%)	86 (2%)	799 (1%)
	Psycholeptics	N (%)	16,362 (26%)	587 (43%)	3,947 (35%)	98 (39%)	1,375 (34%)	14,044 (26%)
	Antiepileptics	N (%)	1,711 (3%)	62 (5%)	411 (4%)	<5 (<5%)	118 (3%)	1,481 (3%)
	Agents acting on the renin angiotensin system	N (%)	1,539 (2%)	22 (2%)	332 (3%)	<5 (<5%)	111 (3%)	1,309 (2%)
	Immunosuppressants	N (%)	366 (1%)	9 (1%)	73 (1%)	0 (0%)	35 (1%)	326 (1%)
	Beta blocking agents	N (%)	2,825 (5%)	69 (5%)	696 (6%)	<5 (<5%)	193 (5%)	2,414 (4%)
	Drugs for obstructive airway diseases	N (%)	18,730 (30%)	423 (31%)	3,857 (34%)	101 (40%)	1,530 (38%)	16,496 (30%)
	Drug diuretics	N (%)	924 (1%)	18 (1%)	185 (2%)	0 (0%)	50 (1%)	787 (1%)
	Lipid modifying agents	N (%)	1,379 (2%)	27 (2%)	256 (2%)	<5 (<5%)	69 (2%)	1,197 (2%)
	Drugs used in diabetes	N (%)	799 (1%)	14 (1%)	132 (1%)	<5 (<5%)	36 (1%)	703 (1%)
	Antipsoriatics	N (%)	132 (0%)	8 (1%)	28 (0%)	0 (0%)	12 (0%)	118 (0%)
	Drugs for acid related disorders	N (%)	10,311 (17%)	241 (18%)	2,461 (22%)	30 (12%)	844 (21%)	8,843 (16%)
	Antibacterials	N (%)	26,753 (43%)	634 (47%)	5,444 (49%)	142 (56%)	2,169 (53%)	23,746 (43%)
	Antidepressants	N (%)	9,014 (15%)	275 (20%)	2,493 (22%)	22 (9%)	836 (21%)	7,459 (14%)
	Antiinflammatory and antirheumatic products	N (%)	15,800 (26%)	342 (25%)	3,728 (33%)	43 (17%)	1,362 (34%)	13,707 (25%)

Table 9. Cohort characteristics of ADHD medication user: SIDIAP.

			CDM name		SIDIAP		
			Cohort name				
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Lisdexamfetamine	Methylphenidate
Number records	-	N	76,952	8,865	3,507	9,517	70,455
Number subjects	-	N	64,039	8,215	3,232	8,651	59,354
Cohort start date	-	Median	2017-01-12	2016-10-04	2019-12-31	2018-07-05	2016-10-21
Cohort end date	-	Median	2018-08-07	2017-11-12	2021-06-22	2020-01-18	2018-04-05
Age	-	Median [Q25 - Q75]	14 [10 - 23]	14 [11 - 20]	12 [10 - 15]	15 [12 - 18]	14 [10 - 23]
Age group	3 to 11	N (%)	25,883 (34%)	2,821 (32%)	1,416 (40%)	1,989 (21%)	24,465 (35%)
	12 to 17	N (%)	25,492 (33%)	3,302 (37%)	1,722 (49%)	4,923 (52%)	23,157 (33%)
	18 to 24	N (%)	6,957 (9%)	951 (11%)	217 (6%)	1,103 (12%)	5,980 (8%)
	25 to 150	N (%)	18,620 (24%)	1,791 (20%)	152 (4%)	1,502 (16%)	16,853 (24%)
Sex	Female	N (%)	25,131 (33%)	2,626 (30%)	767 (22%)	2,796 (29%)	23,067 (33%)
	Male	N (%)	51,821 (67%)	6,239 (70%)	2,740 (78%)	6,721 (71%)	47,388 (67%)
Prior observation	-	Median [Q25 - Q75]	3,340 [2,466 - 4,517]	3,436 [2,621 - 4,464]	4,187 [3,425 - 4,827]	4,093 [3,403 - 4,975]	3,284 [2,425 - 4,451]
Future observation	-	Median [Q25 - Q75]	2,181 [883 - 3,425]	2,360 [1,107 - 3,349]	1,242 [562 - 1,900]	1,752 [796 - 2,632]	2,255 [921 - 3,508]
Days in cohort	-	Median [Q25 - Q75]	233 [86 - 587]	187 [72 - 429]	226 [91 - 472]	241 [93 - 528]	222 [81 - 555]
Comorbidity	Behavioural disorder	N (%)	7,663 (10%)	992 (11%)	851 (24%)	1,150 (12%)	6,844 (10%)
	Diabetes	N (%)	1,193 (2%)	95 (1%)	17 (0%)	76 (1%)	1,102 (2%)
	Hypertension	N (%)	2,216 (3%)	145 (2%)	27 (1%)	142 (1%)	2,077 (3%)
	Eating disorder	N (%)	1,307 (2%)	227 (3%)	73 (2%)	289 (3%)	1,023 (1%)
	HIV	N (%)	134 (0%)	17 (0%)	<5 (<5%)	10 (0%)	116 (0%)

			CDM name SIDIAP Cohort name				
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Crohn's disease	N (%)	81 (0%)	14 (0%)	<5 (<5%)	8 (0%)	74 (0%)
	Narcolepsy	N (%)	212 (0%)	<5 (<5%)	<5 (<5%)	39 (0%)	213 (0%)
	Malignancy	N (%)	2,306 (3%)	50 (1%)	22 (1%)	58 (1%)	2,248 (3%)
	Parkinson	N (%)	175 (0%)	15 (0%)	0 (0%)	<5 (<5%)	163 (0%)
	Hyperlipidaemia	N (%)	2,745 (4%)	299 (3%)	90 (3%)	302 (3%)	2,508 (4%)
	Obesity	N (%)	7,981 (10%)	810 (9%)	515 (15%)	1,241 (13%)	7,217 (10%)
	Fatigue	N (%)	4,092 (5%)	494 (6%)	161 (5%)	537 (6%)	3,687 (5%)
	Dementia	N (%)	229 (0%)	9 (0%)	<5 (<5%)	5 (0%)	224 (0%)
	Depression	N (%)	6,721 (9%)	674 (8%)	110 (3%)	688 (7%)	6,034 (9%)
	Autism	N (%)	4,225 (5%)	779 (9%)	919 (26%)	553 (6%)	3,444 (5%)
	Hepatitis	N (%)	482 (1%)	61 (1%)	13 (0%)	38 (0%)	425 (1%)
	Mood disorders	N (%)	2,268 (3%)	281 (3%)	80 (2%)	251 (3%)	1,982 (3%)
	Schizophrenia	N (%)	259 (0%)	44 (0%)	8 (0%)	23 (0%)	218 (0%)
	Collitis	N (%)	82 (0%)	7 (0%)	<5 (<5%)	<5 (<5%)	78 (0%)
	Post traumatic brain injury	N (%)	182 (0%)	20 (0%)	9 (0%)	24 (0%)	165 (0%)
	Gastrointestinal hemorrhage	N (%)	1,084 (1%)	128 (1%)	54 (2%)	129 (1%)	970 (1%)
	Major depressive disorder	N (%)	6,280 (8%)	633 (7%)	104 (3%)	652 (7%)	5,643 (8%)
	COPD	N (%)	478 (1%)	39 (0%)	6 (0%)	26 (0%)	439 (1%)
	Osteoarthritis	N (%)	1,999 (3%)	149 (2%)	17 (0%)	107 (1%)	1,877 (3%)
	Urinary tract infectious disease	N (%)	6,033 (8%)	689 (8%)	307 (9%)	804 (8%)	5,478 (8%)
	Psoriasis	N (%)	654 (1%)	82 (1%)	27 (1%)	76 (1%)	591 (1%)
	Intellectual disability	N (%)	981 (1%)	166 (2%)	181 (5%)	119 (1%)	815 (1%)
	Cognitive dysfunction	N (%)	878 (1%)	90 (1%)	30 (1%)	55 (1%)	795 (1%)
	Gastroesophageal reflux disease	N (%)	1,466 (2%)	161 (2%)	76 (2%)	185 (2%)	1,336 (2%)

			CDM name SIDIAP Cohort name				
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Chronic liver disease	N (%)	320 (0%)	43 (0%)	8 (0%)	29 (0%)	283 (0%)
	Renal impairment	N (%)	465 (1%)	21 (0%)	13 (0%)	19 (0%)	441 (1%)
	Anxiety	N (%)	13,233 (17%)	1,935 (22%)	462 (13%)	1,575 (17%)	11,588 (16%)
	Pneumonia	N (%)	6,657 (9%)	789 (9%)	479 (14%)	969 (10%)	6,088 (9%)
	Asthma	N (%)	6,268 (8%)	810 (9%)	421 (12%)	1,014 (11%)	5,753 (8%)
	Addiction	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Apathy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medications	Drug diuretics	N (%)	2,256 (3%)	99 (1%)	15 (0%)	95 (1%)	2,143 (3%)
	Antiinflammatory and antirheumatic products	N (%)	60,990 (79%)	7,070 (80%)	3,105 (89%)	7,890 (83%)	55,870 (79%)
	Antipsoriatics	N (%)	233 (0%)	23 (0%)	8 (0%)	23 (0%)	218 (0%)
	Psycholeptics	N (%)	33,602 (44%)	4,567 (52%)	2,660 (76%)	4,552 (48%)	29,874 (42%)
	Drugs used in diabetes	N (%)	1,668 (2%)	118 (1%)	20 (1%)	121 (1%)	1,547 (2%)
	Antibacterials	N (%)	57,431 (75%)	6,678 (75%)	3,048 (87%)	7,521 (79%)	52,543 (75%)
	Drugs for obstructive airway diseases	N (%)	34,182 (44%)	4,012 (45%)	2,129 (61%)	4,622 (49%)	31,250 (44%)
	Antiepileptics	N (%)	12,072 (16%)	1,702 (19%)	741 (21%)	1,408 (15%)	10,510 (15%)
	Lipid modifying agents	N (%)	3,629 (5%)	216 (2%)	29 (1%)	193 (2%)	3,398 (5%)
	Immunosuppressants	N (%)	424 (1%)	41 (0%)	25 (1%)	48 (1%)	382 (1%)
	Antineoplastic agents	N (%)	1,017 (1%)	59 (1%)	17 (0%)	69 (1%)	961 (1%)
	Beta blocking agents	N (%)	2,318 (3%)	219 (2%)	52 (1%)	176 (2%)	2,132 (3%)
	Antithrombotic agents	N (%)	3,180 (4%)	270 (3%)	56 (2%)	281 (3%)	2,892 (4%)
	Drugs for acid related disorders	N (%)	15,909 (21%)	1,735 (20%)	454 (13%)	1,655 (17%)	14,474 (21%)
	Agents acting on the renin angiotensin system	N (%)	3,152 (4%)	172 (2%)	26 (1%)	161 (2%)	2,968 (4%)
	Opioids	N (%)	13,762 (18%)	1,499 (17%)	370 (11%)	1,547 (16%)	12,556 (18%)

			CDM name SIDIAP Cohort name				
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Antidepressants	N (%)	18,377 (24%)	2,359 (27%)	791 (23%)	2,242 (24%)	16,247 (23%)
	Calcium channel blockers	N (%)	1,289 (2%)	61 (1%)	10 (0%)	68 (1%)	1,217 (2%)

Table 10. Cohort characteristics of ADHD medication user: CPRD GOLD.

			CDM name CPRD GOLD Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Number records	-	N	34,397	5,390	1,464	1,408	6,592	28,648
Number subjects	-	N	31,229	5,075	1,372	1,355	6,279	26,245
Cohort start date	-	Median	2017-10-19	2016-05-25	2019-11-28	2020-12-12	2020-11-16	2017-04-13
Cohort end date	-	Median	2018-10-05	2017-02-15	2020-07-13	2022-04-15	2021-09-16	2018-04-03
Age	-	Median [Q25 - Q75]	15 [10 - 24]	16 [11 - 25]	24 [14 - 37]	12 [10 - 15]	18 [12 - 31]	14 [9 - 21]
Age group	12 to 17	N (%)	8,994 (26%)	1,491 (28%)	243 (17%)	654 (46%)	1,889 (29%)	7,919 (28%)
	18 to 24	N (%)	5,193 (15%)	963 (18%)	248 (17%)	77 (5%)	949 (14%)	3,958 (14%)
	25 to 150	N (%)	8,185 (24%)	1,428 (26%)	719 (49%)	64 (5%)	2,362 (36%)	5,641 (20%)
	3 to 11	N (%)	12,025 (35%)	1,508 (28%)	254 (17%)	613 (44%)	1,392 (21%)	11,130 (39%)
Sex	Female	N (%)	9,797 (28%)	1,427 (26%)	545 (37%)	297 (21%)	2,314 (35%)	7,730 (27%)
	Male	N (%)	24,600 (72%)	3,963 (74%)	919 (63%)	1,111 (79%)	4,278 (65%)	20,918 (73%)

			CDM name CPRD GOLD Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Prior observation	-	Median [Q25 - Q75]	2,765 [1,267 - 4,242]	3,022 [1,528 - 4,389]	2,904 [1,203 - 4,961]	3,382 [2,262 - 4,601]	3,340 [1,541 - 5,101]	2,778 [1,342 - 4,140]
Future observation	-	Median [Q25 - Q75]	1,020 [426 - 2,083]	1,238 [526 - 2,407]	752 [237 - 1,762]	834 [390 - 1,648]	763 [347 - 1,550]	1,073 [445 - 2,158]
Comorbidity	Diabetes	N (%)	302 (1%)	46 (1%)	20 (1%)	11 (1%)	69 (1%)	226 (1%)
	Gastrointestinal hemorrhage	N (%)	767 (2%)	158 (3%)	51 (3%)	23 (2%)	187 (3%)	572 (2%)
	Hyperlipidaemia	N (%)	118 (0%)	28 (1%)	12 (1%)	<5 (<5%)	32 (0%)	74 (0%)
	Collitis	N (%)	35 (0%)	5 (0%)	5 (0%)	0 (0%)	15 (0%)	22 (0%)
	Parkinson	N (%)	<5 (<5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	<5 (<5%)
	Major depressive disorder	N (%)	168 (0%)	33 (1%)	13 (1%)	<5 (<5%)	51 (1%)	119 (0%)
	Depression	N (%)	3,490 (10%)	696 (13%)	254 (17%)	40 (3%)	949 (14%)	2,468 (9%)
	Hepatitis	N (%)	25 (0%)	<5 (<5%)	<5 (<5%)	<5 (<5%)	<5 (<5%)	19 (0%)
	Psoriasis	N (%)	374 (1%)	66 (1%)	27 (2%)	11 (1%)	83 (1%)	284 (1%)
	Urinary tract infectious disease	N (%)	1,476 (4%)	266 (5%)	82 (6%)	55 (4%)	355 (5%)	1,176 (4%)
	HIV	N (%)	7 (0%)	<5 (<5%)	0 (0%)	0 (0%)	<5 (<5%)	5 (0%)
	Hypertension	N (%)	284 (1%)	47 (1%)	44 (3%)	5 (0%)	77 (1%)	191 (1%)
	Anxiety	N (%)	6,751 (20%)	1,281 (24%)	359 (25%)	232 (16%)	1,682 (26%)	5,110 (18%)
	Autism	N (%)	3,877 (11%)	779 (14%)	154 (11%)	359 (25%)	792 (12%)	3,331 (12%)
	Intellectual disability	N (%)	67 (0%)	25 (0%)	<5 (<5%)	6 (0%)	13 (0%)	55 (0%)
	Asthma	N (%)	3,737 (11%)	705 (13%)	161 (11%)	179 (13%)	743 (11%)	3,121 (11%)
	Obesity	N (%)	272 (1%)	52 (1%)	24 (2%)	12 (1%)	75 (1%)	199 (1%)
	Osteoarthritis	N (%)	264 (1%)	54 (1%)	32 (2%)	<5 (<5%)	65 (1%)	210 (1%)
	Crohn's disease	N (%)	26 (0%)	6 (0%)	<5 (<5%)	0 (0%)	7 (0%)	21 (0%)
	Dementia	N (%)	7 (0%)	0 (0%)	<5 (<5%)	0 (0%)	0 (0%)	6 (0%)

			CDM name CPRD GOLD Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Cognitive dysfunction	N (%)	127 (0%)	25 (0%)	11 (1%)	0 (0%)	27 (0%)	92 (0%)
	Post traumatic brain injury	N (%)	153 (0%)	21 (0%)	5 (0%)	9 (1%)	47 (1%)	124 (0%)
	Fatigue	N (%)	1,959 (6%)	346 (6%)	141 (10%)	35 (2%)	526 (8%)	1,455 (5%)
	Renal impairment	N (%)	95 (0%)	13 (0%)	14 (1%)	<5 (<5%)	14 (0%)	63 (0%)
	Gastroesophageal reflux disease	N (%)	656 (2%)	124 (2%)	35 (2%)	43 (3%)	153 (2%)	529 (2%)
	Chronic liver disease	N (%)	16 (0%)	<5 (<5%)	<5 (<5%)	0 (0%)	<5 (<5%)	9 (0%)
	Eating disorder	N (%)	265 (1%)	49 (1%)	10 (1%)	7 (0%)	74 (1%)	198 (1%)
	Mood disorders	N (%)	3,580 (10%)	725 (13%)	259 (18%)	42 (3%)	967 (15%)	2,518 (9%)
	Addiction	N (%)	66 (0%)	24 (0%)	7 (0%)	<5 (<5%)	11 (0%)	46 (0%)
	COPD	N (%)	54 (0%)	11 (0%)	5 (0%)	0 (0%)	11 (0%)	40 (0%)
	Malignancy	N (%)	175 (1%)	17 (0%)	17 (1%)	<5 (<5%)	24 (0%)	153 (1%)
	Pneumonia	N (%)	252 (1%)	32 (1%)	15 (1%)	7 (0%)	50 (1%)	214 (1%)
	Narcolepsy	N (%)	177 (1%)	<5 (<5%)	80 (5%)	0 (0%)	<5 (<5%)	130 (0%)
	Schizophrenia	N (%)	60 (0%)	22 (0%)	<5 (<5%)	<5 (<5%)	11 (0%)	29 (0%)
	Behavioural disorder	N (%)	965 (3%)	178 (3%)	37 (3%)	51 (4%)	184 (3%)	825 (3%)
	Apathy	N (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medications	Lipid modifying agents	N (%)	389 (1%)	85 (2%)	50 (3%)	5 (0%)	81 (1%)	248 (1%)
	Beta blocking agents	N (%)	2,931 (9%)	557 (10%)	224 (15%)	51 (4%)	978 (15%)	2,059 (7%)
	Drugs for acid related disorders	N (%)	7,414 (22%)	1,363 (25%)	475 (32%)	359 (25%)	1,865 (28%)	5,727 (20%)
	Calcium channel blockers	N (%)	322 (1%)	69 (1%)	43 (3%)	10 (1%)	90 (1%)	212 (1%)
	Antidepressants	N (%)	8,440 (25%)	1,635 (30%)	638 (44%)	160 (11%)	2,262 (34%)	6,018 (21%)
	Drug diuretics	N (%)	288 (1%)	45 (1%)	40 (3%)	<5 (<5%)	69 (1%)	196 (1%)
	Drugs for obstructive airway diseases	N (%)	13,973 (41%)	2,323 (43%)	632 (43%)	638 (45%)	2,987 (45%)	11,622 (41%)

			CDM name CPRD GOLD Cohort name					
Variable name	Variable level	Estimate name	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
	Antineoplastic agents	N (%)	162 (0%)	32 (1%)	18 (1%)	7 (0%)	47 (1%)	117 (0%)
	Psycholeptics	N (%)	12,682 (37%)	2,743 (51%)	775 (53%)	927 (66%)	3,449 (52%)	10,026 (35%)
	Antipsoriatics	N (%)	209 (1%)	38 (1%)	20 (1%)	5 (0%)	44 (1%)	153 (1%)
	Immunosuppressants	N (%)	114 (0%)	17 (0%)	13 (1%)	10 (1%)	31 (0%)	80 (0%)
	Opioids	N (%)	4,831 (14%)	968 (18%)	368 (25%)	56 (4%)	1,239 (19%)	3,515 (12%)
	Drugs used in diabetes	N (%)	419 (1%)	62 (1%)	34 (2%)	11 (1%)	107 (2%)	303 (1%)
	Antiepileptics	N (%)	2,283 (7%)	501 (9%)	215 (15%)	64 (5%)	585 (9%)	1,665 (6%)
	Agents acting on the renin angiotensin system	N (%)	407 (1%)	80 (1%)	58 (4%)	9 (1%)	104 (2%)	267 (1%)
	Antibacterials	N (%)	25,606 (74%)	4,217 (78%)	1,089 (74%)	1,155 (82%)	5,143 (78%)	21,464 (75%)
	Antithrombotic agents	N (%)	279 (1%)	53 (1%)	35 (2%)	<5 (<5%)	71 (1%)	178 (1%)
	Antiinflammatory and antirheumatic products	N (%)	11,608 (34%)	2,137 (40%)	568 (39%)	432 (31%)	2,642 (40%)	9,416 (33%)

12.3 Main results

12.3.1 Prevalence

In **Figure 2**, the overall (without age or sex stratification) prevalence of each of the study medication, as well as use of any of the study medication is presented. We observed that the overall prevalence was high in IPCI as compared to other databases since 2010. The prevalence of any ADHD medication used in the overall population increased in IPCI and CPRD GOLD during the overall study period and increased in IQVIA LPD Belgium and IQVIA DA Germany since 2015. In SIDIAP, overall prevalence increased during 2010 to 2015 and then stabilised.

In all five databases, methylphenidate was the most prevalent medication. When looking at individual medication, the prevalence rates of all five study medications increased among people aged 18 or over in all five countries.

Figures 3 to 7 shows the yearly prevalence for each age group-sex stratification. The monthly prevalence is detailed in the online shiny app.

In IQVIA Belgium LPD data, prevalence was only estimated from 2015 onwards. The use of ADHD medications is quite limited, with only very low prevalence of atomoxetine both sex groups) and guanfacine (only in males), and methylphenidate (both sex groups). We observed that the prevalence of methylphenidate increased since 2018-2019 in all age and sex groups.

In IQVIA DA Germany, people aged 12 to 17 years old showed higher prevalence compared to other age groups in all five medications. For methylphenidate and atomoxetine, the prevalence among 3 to 11 and 12 to 17 years old group showed a decrease trend since 2012, whiles prevalence increased slightly in other age groups. In parallel, prevalence of lisdexamfetamine seems to increase, especially in the age group 12 to 17, both sex groups, since its market approval (data from 2013 onwards).

In IPCI, higher prevalence was observed for the 12 to 17 years old group in all four medications compared with other age groups, except for dextroamphetamine for 18 to 24, in the female group. Prevalence of methylphenidate use increased during the study period for male and female in the two adult age groups. Prevalence of methylphenidate use among those aged 3 to 11 and 12 to 17 increased since 2010, then started to decrease slightly around 2016 to 2018. The prevalence of dextroamphetamine increased during the study period for all age-sex groups.

In SIDIAP, higher prevalence was observed for the 12 to 17 years old group in all four medications compared with other age groups. Like IPCI, prevalence of methylphenidate uses among those aged 3 to 11 and 12 to 17 increased since 2010, then started to decrease slightly around 2015.

In CPRD, people aged 12 to 17 years old showed higher prevalence compared to other age groups in all five medications (except for dextroamphetamine in female group, but with very low prevalence). We observed increased prevalence of all medications all age and sex groups during the study period, except for atomoxetine. For atomoxetine, prevalence among people aged 3 to 11 and 12 to 17 decreased during the study period, while increased for other age-sex groups.

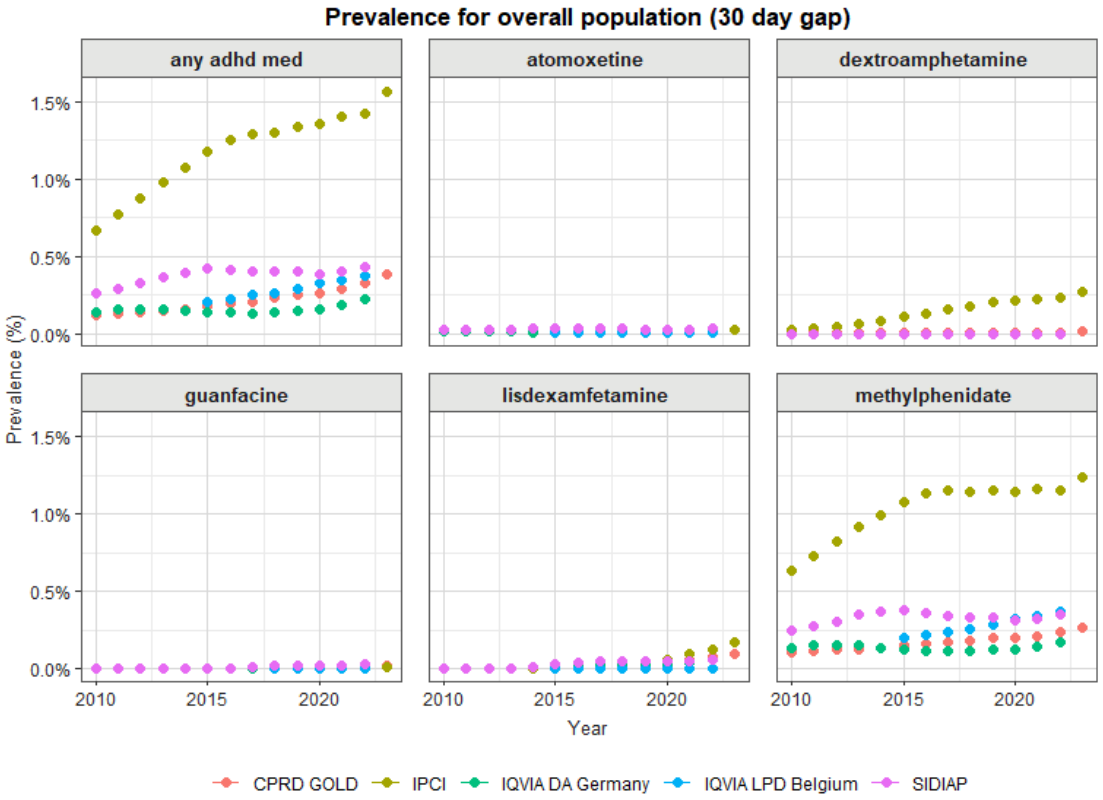


Figure 2. Prevalence use of ADHD medication for the overall population.

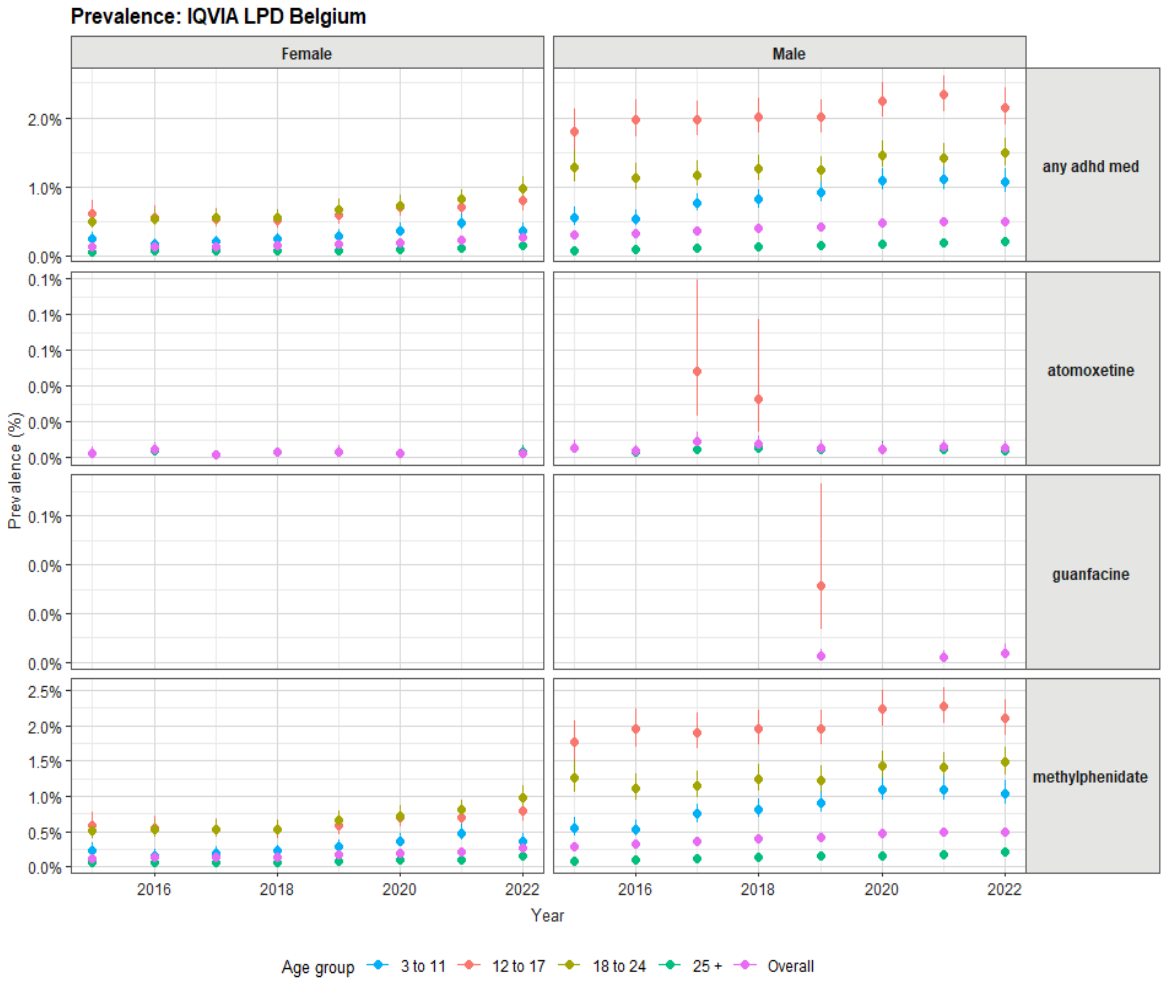


Figure 3. Prevalence use of ADHD medication by age group and sex: IQVIA LPD Belgium.

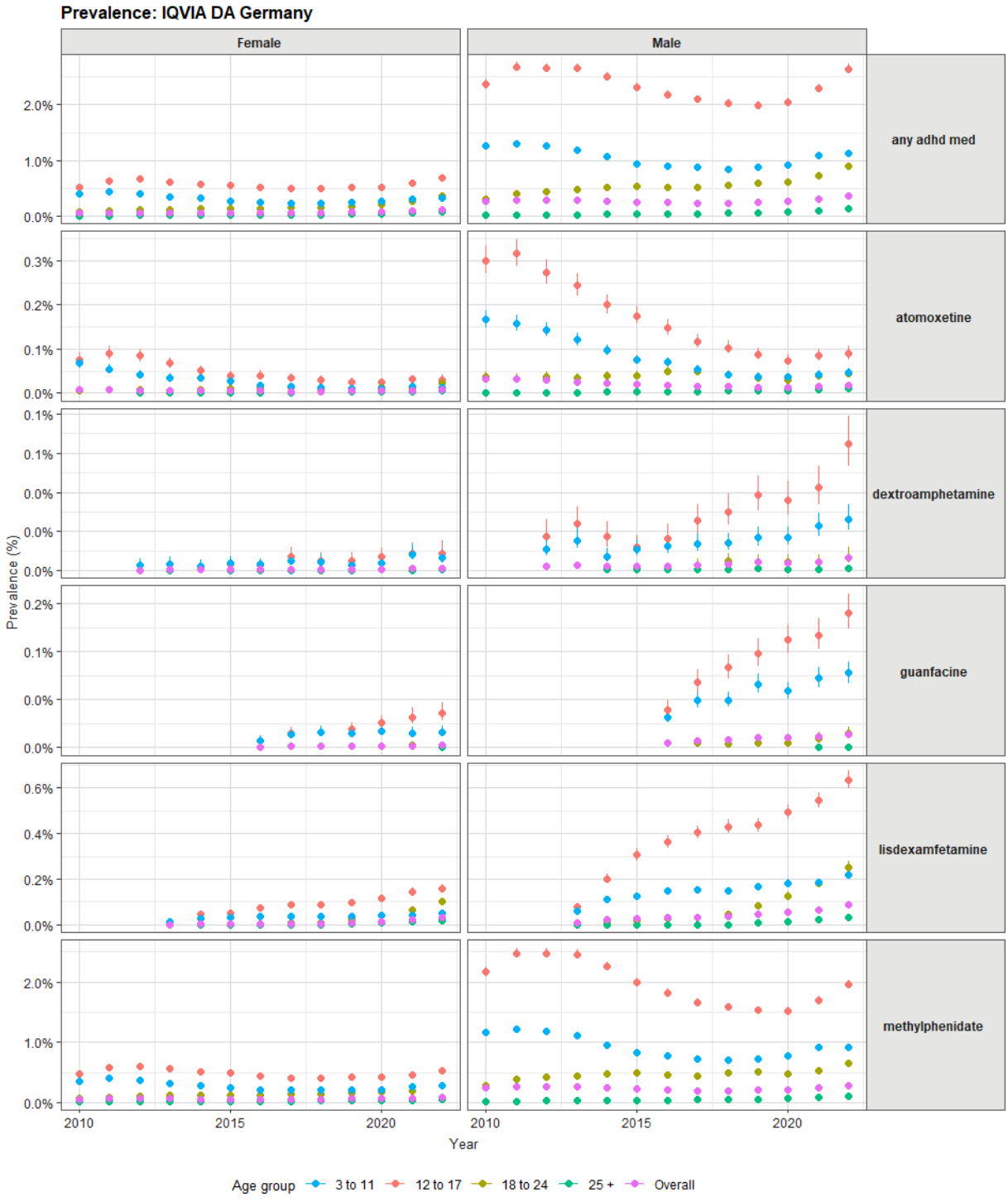


Figure 4. Prevalence use of ADHD medication by age group and sex: IQVIA DA Germany.

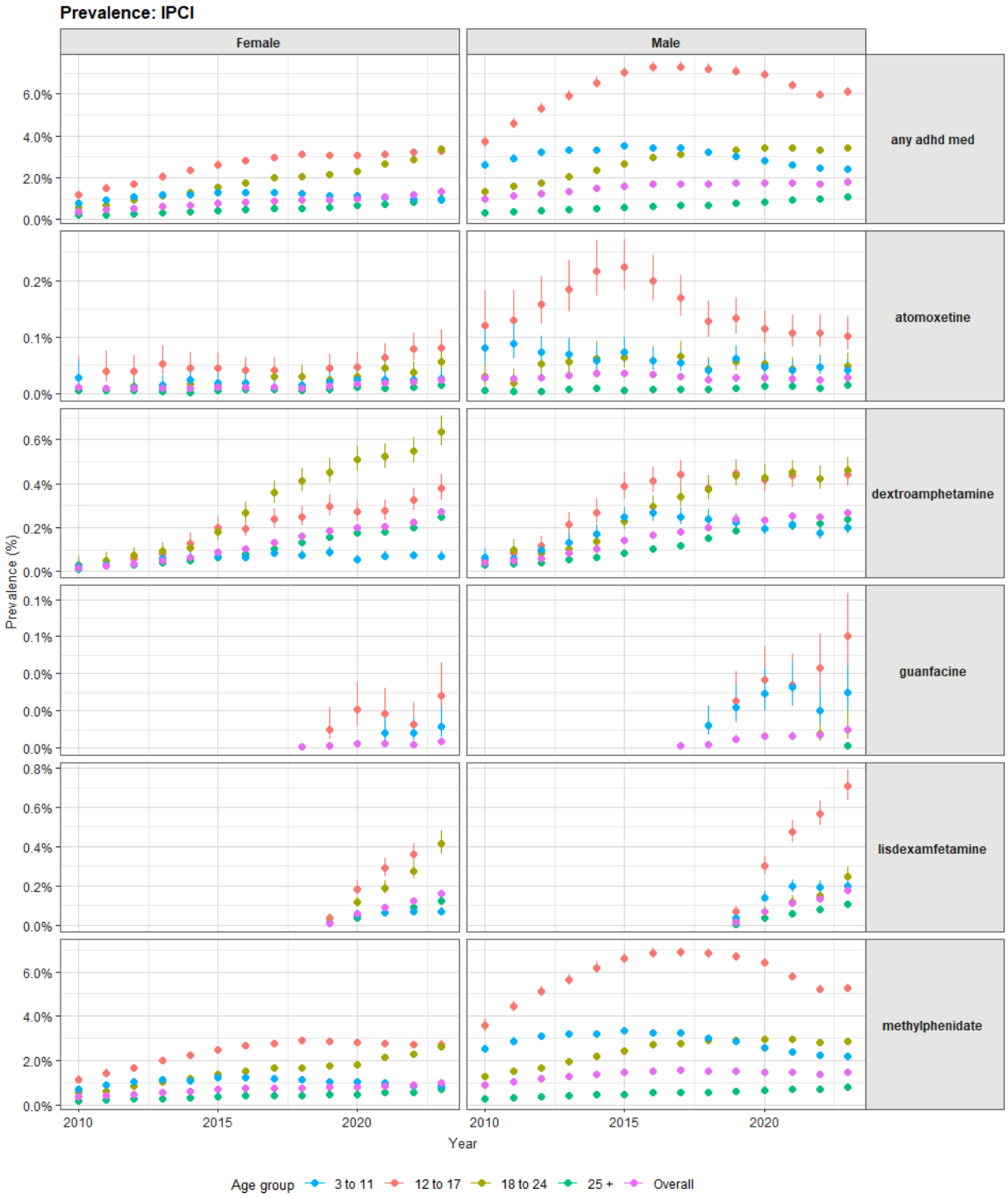


Figure 5. Prevalence use of ADHD medication by age group and sex: IPCI.

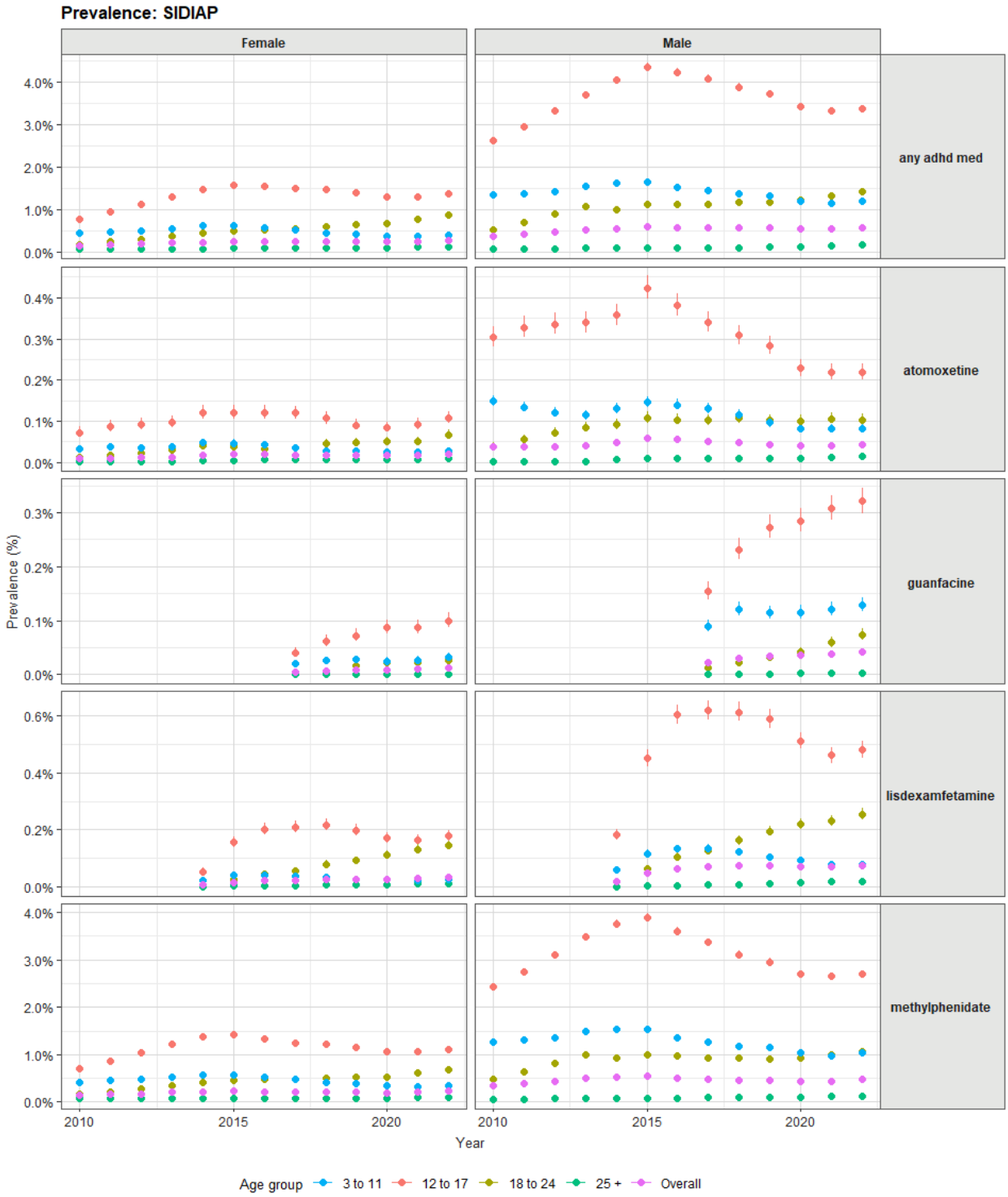


Figure 6. Prevalence use of ADHD medication by age group and sex: SIDIAP.

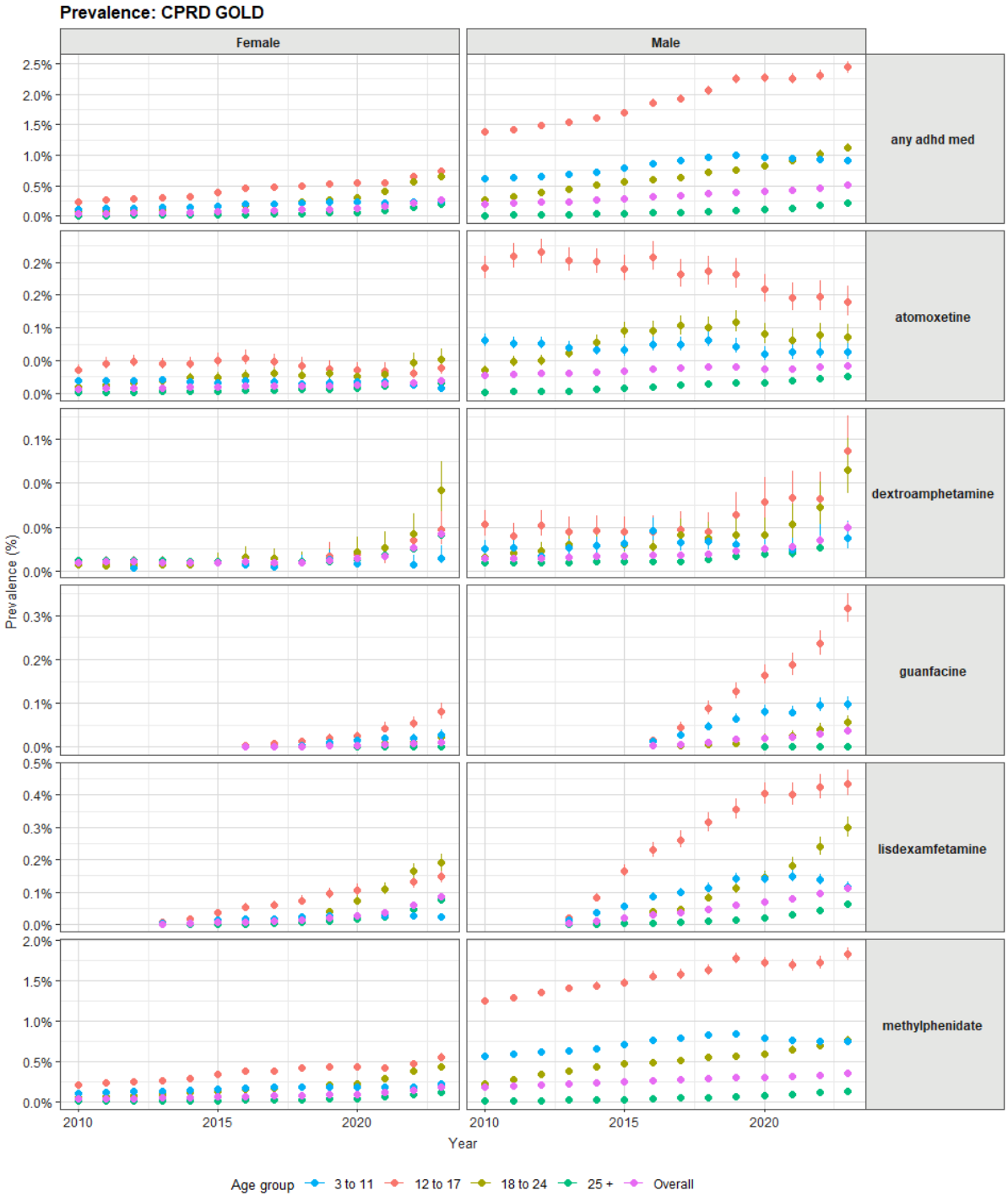


Figure 7. Prevalence use of ADHD medication by age group and sex: CPRD GOLD.

12.3.2 Incidence

Figure 8 shows the incidence rates of ADHD medications during the study period. Among all databases, we observed highest incidence rates of any use, dextroamphetamine, and methylphenidate in IPCI during the study period. IPCI showed highest incidence rates as compared to other databases. The incidence rates of any ADHD medication use increased during the study period in IQVIA LPD Belgium, IQVIA DA Germany, and CPRD GOLD. There was a decreased trend during 2015 to 2020 in IPCI and SIDIAP data.

Figures 9 to **13** present the yearly incidence rates stratified by age group and sex. Monthly incidence rates are detailed in the online shiny app.

In Belgium, only methylphenidate is prescribed (atomoxetine has very low and not continuous incidence rates). Among female, people aged 18 – 24 showed higher incidence rates among all age groups. In male, the 12 to 17 years old group showed higher incidence rates. Incidence rates of methylphenidate were relative stable for all age and sex groups.

In IQVIA DA Germany, higher incidence rates of methylphenidate were observed among 3 to 11 and 12 to 17 age group, and the rates decreased during the study period. Incidence rates of other age groups increased moderately for both male and female. Incidence rates of lisdexamfetamine increased in all age groups for male and female during the study period.

In IPCI, incidence rates of methylphenidate among male increased during 2010 to 2016, then started decreasing after 2016. The highest incidence rates were observed among people aged 12-17 years old. For female, incidence rates increased until 2016, then showed a decrease trend among the 3 to 11 years old group. The incidence rates of methylphenidate and lisdexamfetamine among female aged 18+ were higher than male since 2020-2021.

In SIDIAP, trends of incidence rates for methylphenidate use were similar for both male and female, whiles the absolute incidence rates were higher in male than female in all age groups. In all other medications, people aged 12 to 17 had the highest incidence compared with other age groups in both male and female. Incidence rates all medication among the 3 to 11 years old group decreased during the study period.

In CPRD, we observed that the incidence rates of the study medications are different by age and sex groups. For methylphenidate, the 3 to 11 years old group has higher incidence rates during the study period comparing with other age groups. Among those aged 3 to 11 years old, incidence rates increased from 2010 to 2018 and then started to decrease since 2018 for both male and female. For the 18 to 24 years old group, we observed an increase in incidence rates since 2010 among female, while the rate started to decrease in 2018 among males.

Increased incidence rates of lisdexamfetamine started to increase in both male and female since 2012. Among female, the 12 to 17 years old group had higher incidence rates, then overtook by the 18-24 years old group since 2020. In male, incidence rates were higher among the 3 to 11 and the 12 to 17 years group during the study period. For methylphenidate and lisdexamfetamine, while the incidence rates were higher in male than female in all age group during most of the study period, the incidence rates of methylphenidate among female overtaken male among the 18 + group in 2022, and the incidence rates of lisdexamfetamine among female have overtaken male among the 25+ group since 2021.

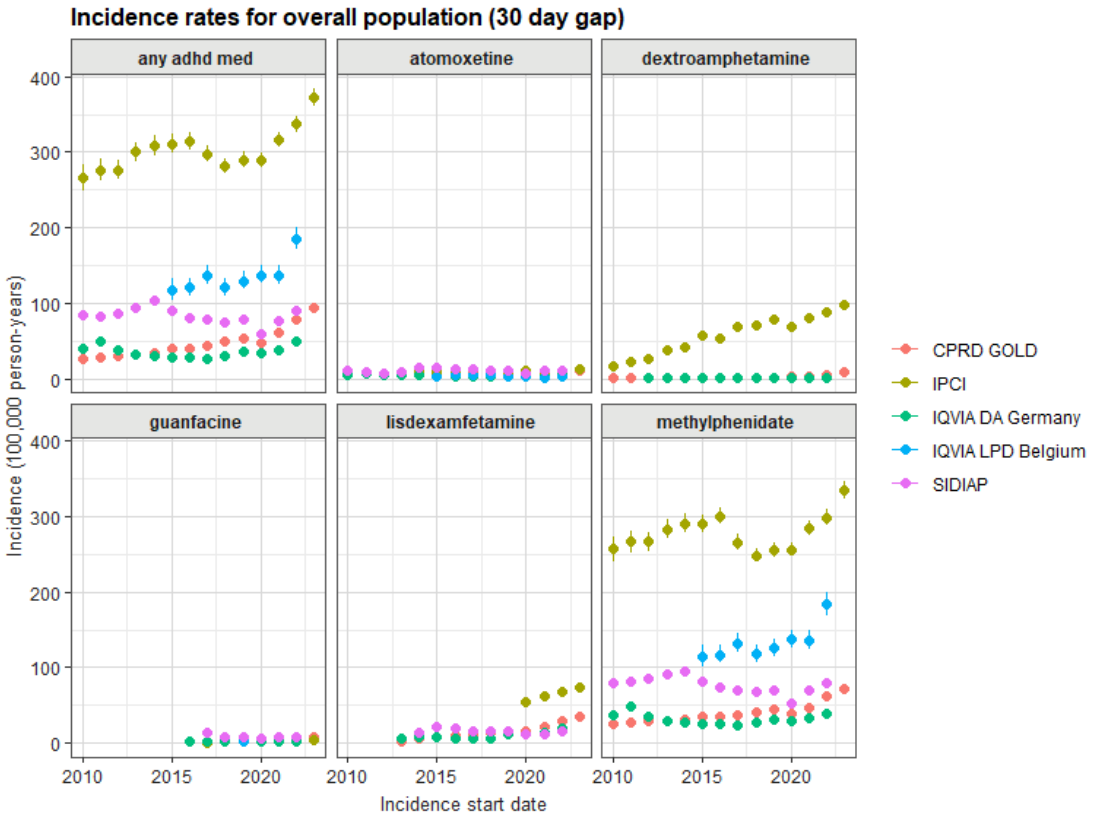


Figure 8. Incidence rates of ADHD medication for the overall population.

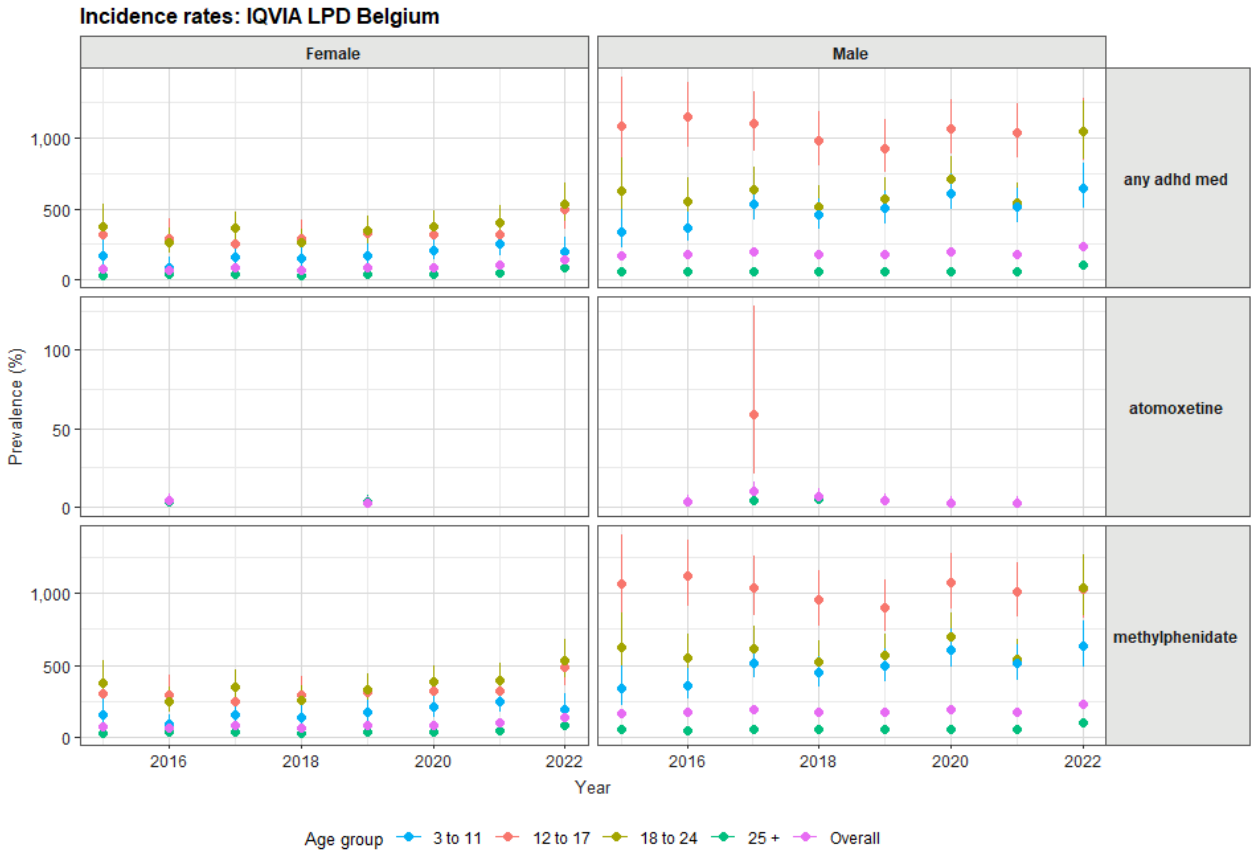


Figure 9. Incidence rates of ADHD medication by age group and sex: IQVIA LPD Belgium.

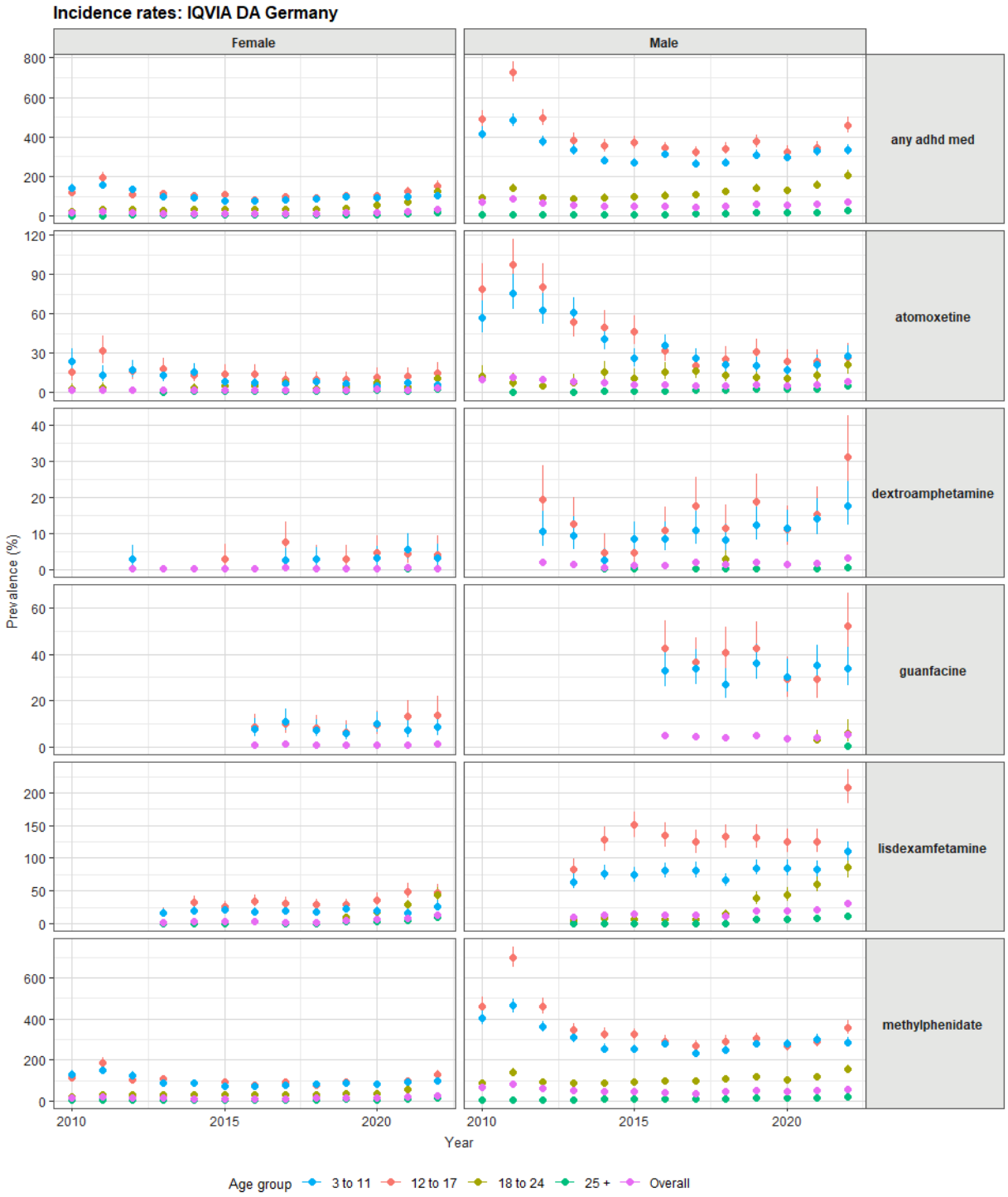


Figure 10. Incidence rates of ADHD medication by age group and sex: IQVIA DA Germany.

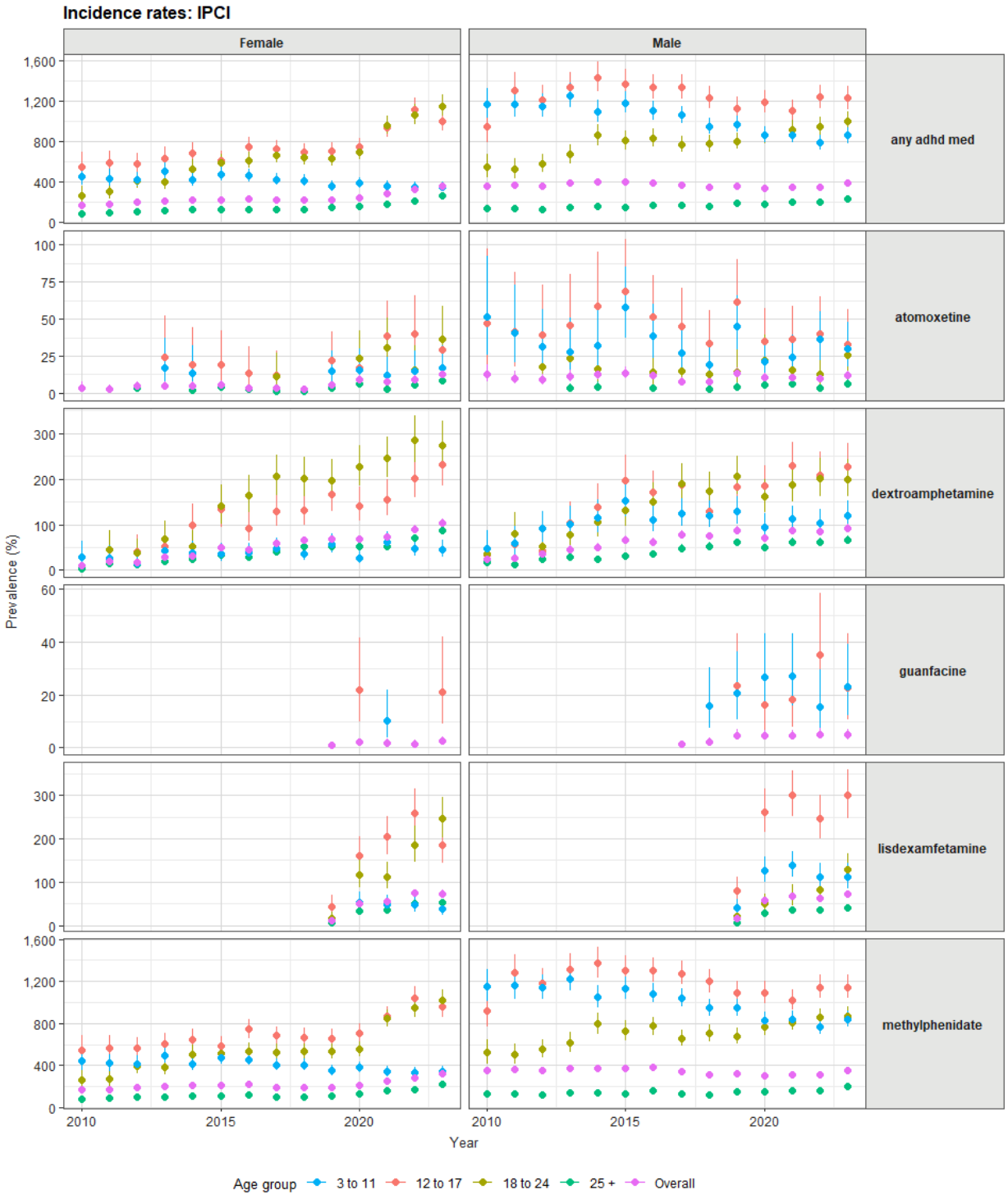


Figure 11. Incidence rates of ADHD medication by age group and sex: IPCI.

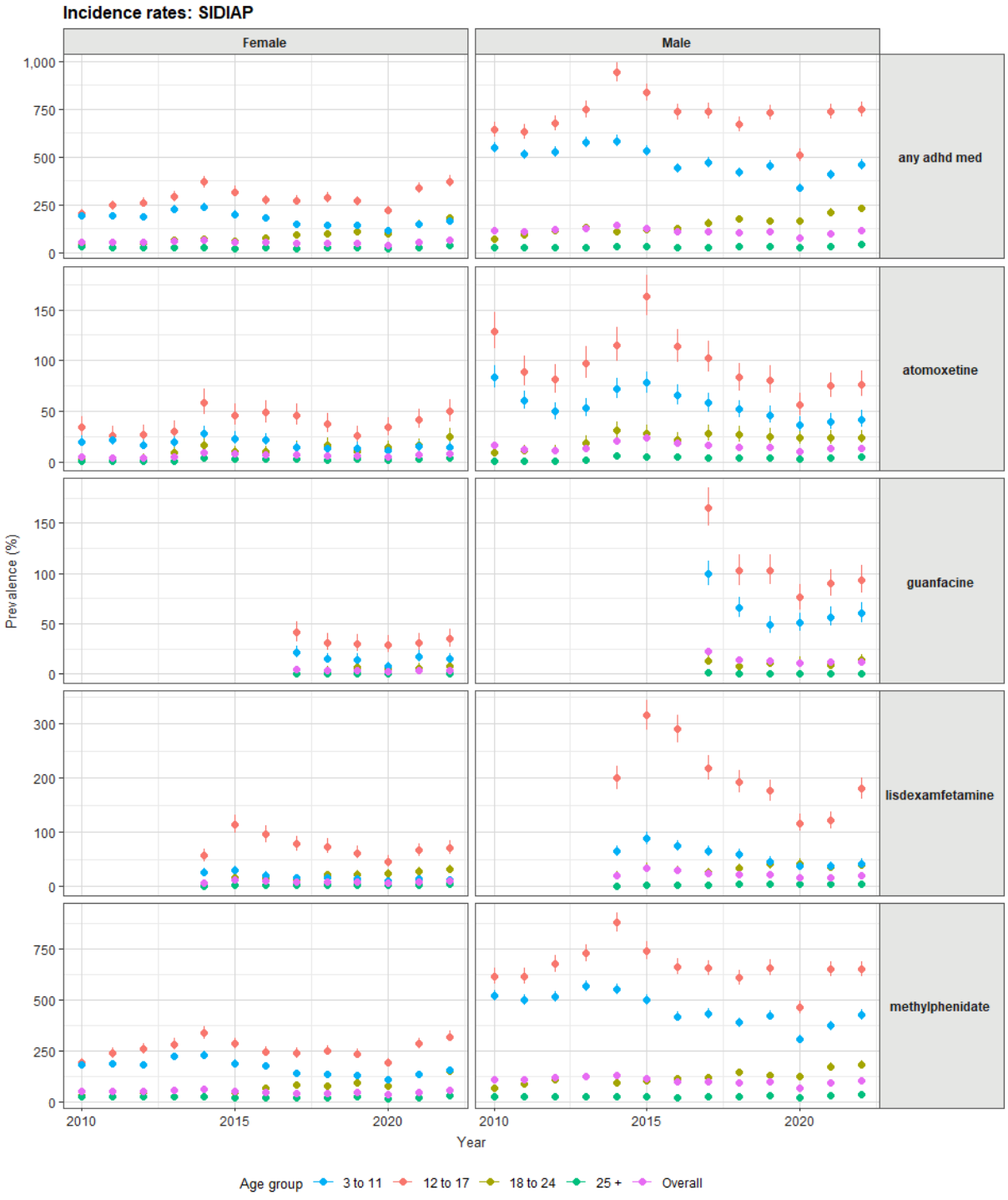


Figure 12. Incidence rates of ADHD medication by age group and sex: SIDIAP.

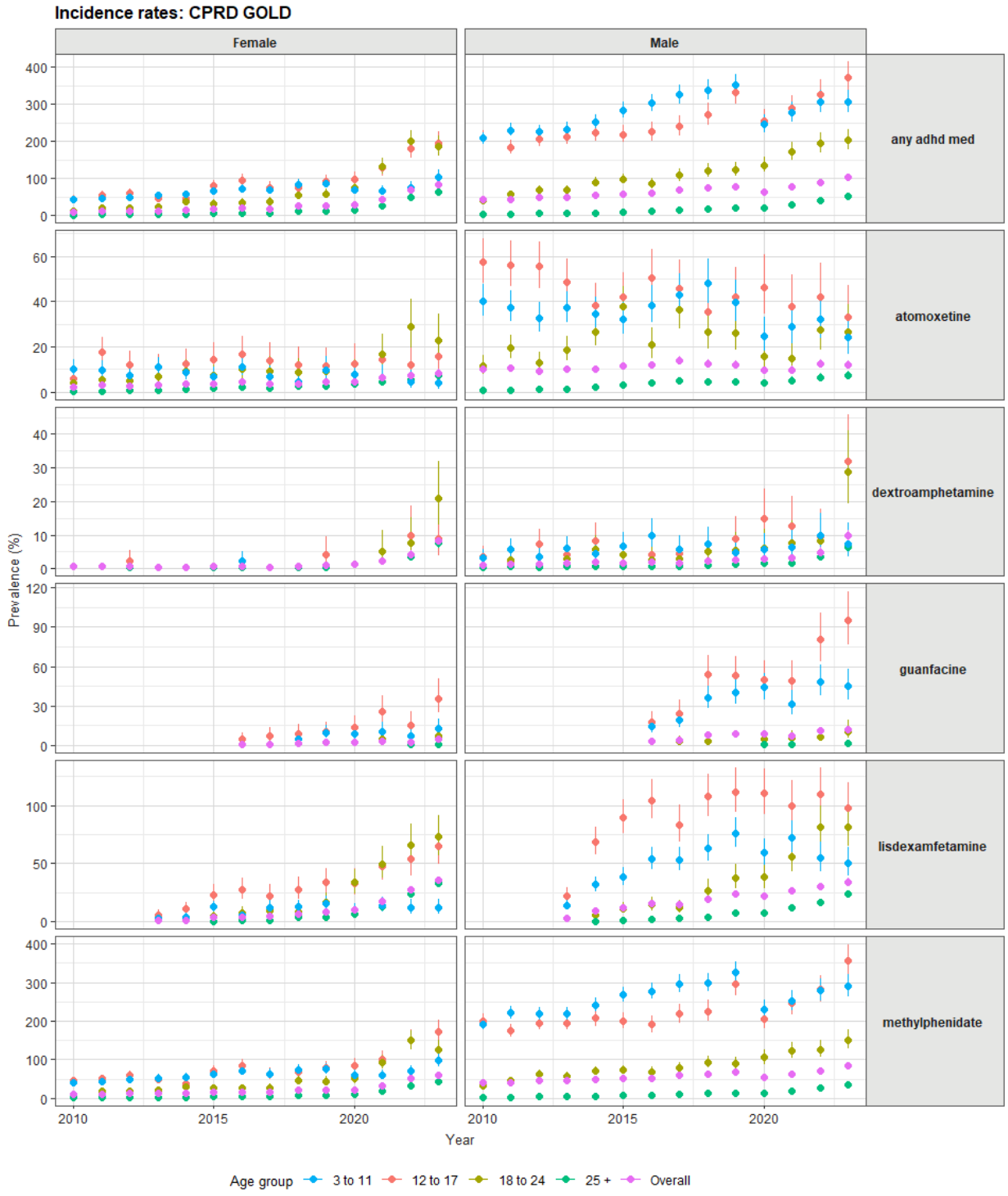


Figure 13. Incidence rates of ADHD medication by age group and sex: CPRD GOLD.

12.3.3 Indication

We assessed the potential indication for people who initiated an ADHD medication using different time windows, on or before the initial prescription date (Index date) (**Table 11 -12**). In the tables below, off label use include any of addictions, apathy, autism, disorders (exclude ADHD), dysfunction (exclude dementia), dementia, disorders, fatigue, intellectual disability, major depression disorder, disorders (exclude major depressive disorder), or post-traumatic brain injury. Unknow means that during the pre-defined period on or before index date, one or more other conditions than ADHD, narcolepsy, or any of the off-label conditions were recorded.

The percentages of people who had a 'ADHD' code recorded (with or without narcolepsy or off-label conditions) on the index date of any ADHD medication were 79%, 38%, 20%, 18%, and 8% in IQVIA LPD Belgium, IQVIA DA Germany, IPCI, SIDIAP, and CPRD GOLD respectively.

In IQVIA LPD Belgium, 15% of individuals who started atomoxetine had both a diagnoses of ADHD and at least one of the off-label use conditions on the index date.

In IQVIA DA Germany, percentage of people with recorded ADHD without other potential off-label indications on index date were similar for atomoxetine, dextroamphetamine, guanfacine, and lisdexamfetamine. About 10 – 11% of people had ADHD together with at least one off-label conditions recorded on the index date of atomoxetine, dextroamphetamine, and guanfacine.

In IPCI, only 5% of people have ADHD recorded on the index date of guanfacine, which was the lowest among all five medications.

In SIDIAP, 26.9% of people have ADHD recorded on the index date of guanfacine.

In CPRD GOLD, 3-5% of people have ADHD diagnosis recorded on the index date of atomoxetine, dextroamphetamine, guanfacine, and lisdexamfetamine. In IPCI, SIDIAP, and CPRD GOLD, percentage of people with potential off label use conditions on index date were very low for all study medications.

Indications stratified by age group, sex, and calendar time are presented in the online shiny app.

Table 11. Indication on index date of medication start, by database.

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
IQVIA LPD Belgium						
ADHD	4,291 (73.9 %)	80 (66.7 %)	-	17 (68.0 %)	-	4,222 (74.1 %)
Narcolepsy	23 (0.4 %)	-	-	-	-	23 (0.4 %)
Off label	263 (4.5 %)	12 (10.0 %)	-	-	-	252 (4.4 %)
ADHD and off label	284 (4.9 %)	18 (15.0 %)	-	-	-	267 (4.7 %)
Unknown	641 (11.0 %)	7 (5.8 %)	-	6 (24.0 %)	-	635 (11.1 %)
None	295 (5.1 %)	-	-	-	-	293 (5.1 %)
IQVIA DA Germany						
ADHD	16,840 (31.8 %)	1,430 (29.2 %)	247 (29.3 %)	405 (26.7 %)	2,737 (27.9 %)	14,794 (32.5 %)
Narcolepsy	109 (0.2 %)	-	-	-	-	105 (0.2 %)
Off label	1,730 (3.3 %)	251 (5.1 %)	31 (3.7 %)	74 (4.9 %)	379 (3.9 %)	1,342 (2.9 %)
ADHD and narcolepsy	5 (0.0 %)	-	-	-	-	5 (0.0 %)
ADHD and off label	3,482 (6.6 %)	495 (10.1 %)	85 (10.1 %)	180 (11.9 %)	811 (8.3 %)	2,867 (6.3 %)
Unknown	6,139 (11.6 %)	545 (11.1 %)	86 (10.2 %)	161 (10.6 %)	908 (9.3 %)	5,333 (11.7 %)
None	24,593 (46.5 %)	2,171 (44.4 %)	392 (46.4 %)	695 (45.9 %)	4,952 (50.6 %)	21,068 (46.3 %)
IPCI						
ADHD	12,010 (19.4 %)	181 (13.4 %)	1,602 (14.3 %)	13 (5.2 %)	481 (11.9 %)	10,736 (19.5 %)
Off label	1,131 (1.8 %)	13 (1.0 %)	141 (1.3 %)	-	38 (0.9 %)	1,009 (1.8 %)
ADHD and off label	166 (0.3 %)	-	24 (0.2 %)	-	10 (0.2 %)	146 (0.3 %)
Unknown	6,340 (10.2 %)	131 (9.7 %)	1,195 (10.7 %)	25 (9.9 %)	244 (6.0 %)	5,609 (10.2 %)
None	42,299 (68.3 %)	1,022 (75.7 %)	8,236 (73.5 %)	211 (83.7 %)	3,283 (80.9 %)	37,492 (68.2 %)
SIDIAP						
ADHD	13,124 (17.1 %)	970 (10.9 %)	-	942 (26.9 %)	983 (10.3 %)	11,368 (16.1 %)

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Narcolepsy	31 (0.0 %)	-	-	-	-	30 (0.0 %)
Off label	932 (1.2 %)	113 (1.3 %)	-	33 (0.9 %)	105 (1.1 %)	798 (1.1 %)
ADHD and off label	354 (0.5 %)	32 (0.4 %)	-	31 (0.9 %)	34 (0.4 %)	285 (0.4 %)
Unknown	13,877 (18.0 %)	1,308 (14.8 %)	-	519 (14.8 %)	1,432 (15.0 %)	12,524 (17.8 %)
None	48,634 (63.2 %)	6,442 (72.7 %)	-	1,982 (56.5 %)	6,960 (73.1 %)	45,450 (64.5 %)
CPRD GOLD						
ADHD	2,824 (8.2 %)	273 (5.1 %)	42 (2.9 %)	46 (3.3 %)	347 (5.3 %)	2,377 (8.3 %)
Narcolepsy	16 (0.0 %)	-	10 (0.7 %)	-	-	8 (0.0 %)
Off label	75 (0.2 %)	17 (0.3 %)	-	-	8 (0.1 %)	61 (0.2 %)
ADHD and off label	53 (0.2 %)	-	-	-	6 (0.1 %)	46 (0.2 %)
Unknown	2,404 (7.0 %)	414 (7.7 %)	109 (7.4 %)	66 (4.7 %)	407 (6.2 %)	1,956 (6.8 %)
None	29,025 (84.4 %)	4,683 (86.9 %)	1,297 (88.6 %)	1,293 (91.8 %)	5,823 (88.3 %)	24,200 (84.5 %)

Expanding the time window up to 90 days before the index date, improved for all databases the percentage of people who had an 'ADHD' code recorded significantly, except for the IQVIA LPD Belgium database where the impact was limited, probably due to already higher records at index data compared to all the other databases. During the 90 days prior to the index date, 79%, 46%, 30%, 22% and 28% of people who initiated any of the study ADHD medication had a diagnosis code of ADHD (with or without narcolepsy or off-label indications) in IQVIA LPD Belgium, IQVIA DA Germany, IPCI, SIDIAP and CPRD, respectively (**Table 12**).

Table 12. Indication from 7, 30, and 90 days before to the index date, by database.

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Indication from 90 days before to the index date; IQVIA LPD Belgium						
ADHD	4,185 (72.1 %)	80 (66.7 %)	-	17 (68.0 %)	-	4,117 (72.2 %)
Narcolepsy	22 (0.4 %)	-	-	-	-	22 (0.4 %)
Off label	299 (5.2 %)	10 (8.3 %)	-	-	-	288 (5.1 %)
ADHD and off label	400 (6.9 %)	22 (18.3 %)	-	-	-	382 (6.7 %)
Narcolepsy and off label	6 (0.1 %)	-	-	-	-	6 (0.1 %)
Unknown	668 (11.5 %)	7 (5.8 %)	-	6 (24.0 %)	-	662 (11.6 %)
None	220 (3.8 %)	-	-	-	-	218 (3.8 %)
Indication from 30 days before to the index date; IQVIA LPD Belgium						
ADHD	4,252 (73.2 %)	81 (67.5 %)	-	17 (68.0 %)	-	4,183 (73.4 %)
Narcolepsy	24 (0.4 %)	-	-	-	-	24 (0.4 %)
Off label	277 (4.8 %)	11 (9.2 %)	-	-	-	266 (4.7 %)
ADHD and off label	328 (5.7 %)	19 (15.8 %)	-	-	-	311 (5.5 %)
Unknown	646 (11.1 %)	8 (6.7 %)	-	6 (24.0 %)	-	639 (11.2 %)
None	270 (4.7 %)	-	-	-	-	269 (4.7 %)
Indication from 7 days before to the index date; IQVIA LPD Belgium						
ADHD	4,285 (73.8 %)	80 (66.7 %)	-	17 (68.0 %)	-	4,216 (74.0 %)
Narcolepsy	24 (0.4 %)	-	-	-	-	24 (0.4 %)
Off label	266 (4.6 %)	12 (10.0 %)	-	-	-	255 (4.5 %)
ADHD and off label	291 (5.0 %)	18 (15.0 %)	-	-	-	274 (4.8 %)
Unknown	643 (11.1 %)	8 (6.7 %)	-	6 (24.0 %)	-	636 (11.2 %)
None	288 (5.0 %)	-	-	-	-	287 (5.0 %)
Indication from 90 days before to the index date; IQVIA DA Germany						

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
ADHD	18,225 (34.5 %)	1,553 (31.7 %)	283 (33.5 %)	495 (32.7 %)	3,134 (32.0 %)	16,128 (35.4 %)
Narcolepsy	121 (0.2 %)	-	-	-	5 (0.1 %)	115 (0.3 %)
Off label	2,583 (4.9 %)	361 (7.4 %)	46 (5.5 %)	106 (7.0 %)	557 (5.7 %)	2,028 (4.5 %)
ADHD and narcolepsy	5 (0.0 %)	-	-	-	-	5 (0.0 %)
ADHD and off label	5,854 (11.1 %)	814 (16.6 %)	156 (18.5 %)	312 (20.6 %)	1,614 (16.5 %)	4,949 (10.9 %)
Narcolepsy and off label	19 (0.0 %)	-	-	-	-	16 (0.0 %)
Unknown	8,312 (15.7 %)	748 (15.3 %)	115 (13.6 %)	223 (14.7 %)	1,223 (12.5 %)	7,175 (15.8 %)
None	17,779 (33.6 %)	1,414 (28.9 %)	238 (28.2 %)	379 (25.0 %)	3,252 (33.2 %)	15,099 (33.2 %)
Indication from 30 days before to the index date; IQVIA DA Germany						
ADHD	17,549 (33.2 %)	1,501 (30.7 %)	266 (31.5 %)	443 (29.2 %)	2,877 (29.4 %)	15,489 (34.0 %)
Narcolepsy	121 (0.2 %)	-	-	-	5 (0.1 %)	114 (0.3 %)
Off label	2,104 (4.0 %)	298 (6.1 %)	34 (4.0 %)	94 (6.2 %)	467 (4.8 %)	1,632 (3.6 %)
ADHD and narcolepsy	5 (0.0 %)	-	-	-	-	5 (0.0 %)
ADHD and off label	4,437 (8.4 %)	620 (12.7 %)	112 (13.3 %)	236 (15.6 %)	1,140 (11.6 %)	3,717 (8.2 %)
Narcolepsy and off label	7 (0.0 %)	-	-	-	-	6 (0.0 %)
Unknown	7,193 (13.6 %)	658 (13.4 %)	98 (11.6 %)	207 (13.7 %)	1,087 (11.1 %)	6,208 (13.6 %)
None	21,484 (40.6 %)	1,813 (37.1 %)	330 (39.1 %)	535 (35.3 %)	4,213 (43.0 %)	18,344 (40.3 %)
Indication from 7 days before to the index date; IQVIA DA Germany						
ADHD	17,182 (32.5 %)	1,456 (29.8 %)	252 (29.9 %)	407 (26.9 %)	2,773 (28.3 %)	15,119 (33.2 %)
Narcolepsy	114 (0.2 %)	-	-	-	5 (0.1 %)	109 (0.2 %)
Off label	1,830 (3.5 %)	262 (5.4 %)	32 (3.8 %)	76 (5.0 %)	405 (4.1 %)	1,426 (3.1 %)
ADHD and narcolepsy	5 (0.0 %)	-	-	-	-	5 (0.0 %)
ADHD and off label	3,781 (7.1 %)	531 (10.9 %)	97 (11.5 %)	195 (12.9 %)	910 (9.3 %)	3,126 (6.9 %)
Narcolepsy and off label	5 (0.0 %)	-	-	-	-	-
Unknown	6,487 (12.3 %)	586 (12.0 %)	93 (11.0 %)	182 (12.0 %)	950 (9.7 %)	5,617 (12.3 %)

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
None	23,496 (44.4 %)	2,057 (42.0 %)	367 (43.5 %)	655 (43.2 %)	4,747 (48.5 %)	20,110 (44.2 %)
Indication from 90 days before to the index date; IPCI						
ADHD	17,520 (28.3 %)	307 (22.7 %)	2,911 (26.0 %)	34 (13.5 %)	1,036 (25.5 %)	15,624 (28.4 %)
Off label	2,782 (4.5 %)	50 (3.7 %)	483 (4.3 %)	12 (4.8 %)	137 (3.4 %)	2,455 (4.5 %)
ADHD and off label	1,340 (2.2 %)	27 (2.0 %)	292 (2.6 %)	7 (2.8 %)	106 (2.6 %)	1,156 (2.1 %)
Unknown	17,284 (27.9 %)	391 (29.0 %)	3,260 (29.1 %)	72 (28.6 %)	1,138 (28.1 %)	15,224 (27.7 %)
None	23,020 (37.2 %)	575 (42.6 %)	4,252 (38.0 %)	127 (50.4 %)	1,639 (40.4 %)	20,533 (37.3 %)
Indication from 30 days before to the index date; IPCI						
ADHD	14,620 (23.6 %)	233 (17.3 %)	2,181 (19.5 %)	24 (9.5 %)	719 (17.7 %)	13,078 (23.8 %)
Off label	1,804 (2.9 %)	26 (1.9 %)	283 (2.5 %)	5 (2.0 %)	84 (2.1 %)	1,592 (2.9 %)
ADHD and off label	689 (1.1 %)	12 (0.9 %)	128 (1.1 %)	-	34 (0.8 %)	601 (1.1 %)
Unknown	11,355 (18.3 %)	269 (19.9 %)	2,151 (19.2 %)	45 (17.9 %)	671 (16.5 %)	10,021 (18.2 %)
None	33,478 (54.0 %)	810 (60.0 %)	6,455 (57.6 %)	176 (69.8 %)	2,548 (62.8 %)	29,700 (54.0 %)
Indication from 7 days before to the index date; IPCI						
ADHD	13,024 (21.0 %)	197 (14.6 %)	1,796 (16.0 %)	18 (7.1 %)	551 (13.6 %)	11,626 (21.1 %)
Off label	1,339 (2.2 %)	15 (1.1 %)	186 (1.7 %)	-	51 (1.3 %)	1,185 (2.2 %)
ADHD and off label	331 (0.5 %)	5 (0.4 %)	49 (0.4 %)	-	20 (0.5 %)	288 (0.5 %)
Unknown	7,778 (12.6 %)	174 (12.9 %)	1,469 (13.1 %)	31 (12.3 %)	362 (8.9 %)	6,867 (12.5 %)
None	39,474 (63.7 %)	959 (71.0 %)	7,698 (68.7 %)	199 (79.0 %)	3,072 (75.7 %)	35,026 (63.7 %)
Indication from 90 days before to the index date; SIDIAP						
ADHD	16,415 (21.3 %)	1,313 (14.8 %)	-	989 (28.2 %)	1,295 (13.6 %)	14,519 (20.6 %)
Narcolepsy	56 (0.1 %)	-	-	-	-	55 (0.1 %)
Off label	2,173 (2.8 %)	266 (3.0 %)	-	81 (2.3 %)	212 (2.2 %)	1,903 (2.7 %)
ADHD and off label	721 (0.9 %)	75 (0.8 %)	-	72 (2.1 %)	77 (0.8 %)	588 (0.8 %)
Unknown	27,944 (36.3 %)	3,349 (37.8 %)	-	1,183 (33.7 %)	3,467 (36.4 %)	25,603 (36.3 %)

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
None	29,643 (38.5 %)	3,862 (43.6 %)	-	1,182 (33.7 %)	4,463 (46.9 %)	27,787 (39.4 %)
Indication from 30 days before to the index date; SIDIAP						
ADHD	14,615 (19.0 %)	1,109 (12.5 %)	-	969 (27.6 %)	1,105 (11.6 %)	12,740 (18.1 %)
Narcolepsy	38 (0.0 %)	-	-	-	-	37 (0.1 %)
Off label	1,353 (1.8 %)	170 (1.9 %)	-	48 (1.4 %)	147 (1.5 %)	1,173 (1.7 %)
ADHD and off label	476 (0.6 %)	43 (0.5 %)	-	48 (1.4 %)	48 (0.5 %)	384 (0.5 %)
Unknown	20,434 (26.6 %)	2,200 (24.8 %)	-	838 (23.9 %)	2,369 (24.9 %)	18,597 (26.4 %)
None	40,036 (52.0 %)	5,343 (60.3 %)	-	1,604 (45.7 %)	5,845 (61.4 %)	37,524 (53.3 %)
Indication from 7 days before to the index date; SIDIAP						
ADHD	13,612 (17.7 %)	1,004 (11.3 %)	-	952 (27.1 %)	1,024 (10.8 %)	11,812 (16.8 %)
Narcolepsy	31 (0.0 %)	-	-	-	-	30 (0.0 %)
Off label	1,018 (1.3 %)	127 (1.4 %)	-	34 (1.0 %)	111 (1.2 %)	877 (1.2 %)
ADHD and off label	385 (0.5 %)	34 (0.4 %)	-	37 (1.1 %)	39 (0.4 %)	305 (0.4 %)
Unknown	15,805 (20.5 %)	1,554 (17.5 %)	-	610 (17.4 %)	1,699 (17.9 %)	14,292 (20.3 %)
None	46,101 (59.9 %)	6,146 (69.3 %)	-	1,874 (53.4 %)	6,641 (69.8 %)	43,139 (61.2 %)
Indication from 90 days before to the index date; CPRD GOLD						
ADHD	9,097 (26.4 %)	825 (15.3 %)	159 (10.9 %)	141 (10.0 %)	1,238 (18.8 %)	7,712 (26.9 %)
Narcolepsy	43 (0.1 %)	-	18 (1.2 %)	-	-	28 (0.1 %)
Off label	493 (1.4 %)	104 (1.9 %)	30 (2.0 %)	21 (1.5 %)	88 (1.3 %)	396 (1.4 %)
ADHD and off label	650 (1.9 %)	66 (1.2 %)	12 (0.8 %)	13 (0.9 %)	79 (1.2 %)	571 (2.0 %)
Unknown	10,156 (29.5 %)	2,061 (38.2 %)	529 (36.1 %)	549 (39.0 %)	2,278 (34.6 %)	8,333 (29.1 %)
None	13,955 (40.6 %)	2,334 (43.3 %)	715 (48.8 %)	684 (48.6 %)	2,908 (44.1 %)	11,605 (40.5 %)
Indication from 30 days before to the index date; CPRD GOLD						
ADHD	6,449 (18.7 %)	546 (10.1 %)	92 (6.3 %)	82 (5.8 %)	778 (11.8 %)	5,476 (19.1 %)
Narcolepsy	36 (0.1 %)	-	17 (1.2 %)	-	-	22 (0.1 %)

	Cohort name					
Indication	Any ADHD med	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Off label	260 (0.8 %)	59 (1.1 %)	15 (1.0 %)	14 (1.0 %)	46 (0.7 %)	209 (0.7 %)
ADHD and off label	311 (0.9 %)	23 (0.4 %)	5 (0.3 %)	7 (0.5 %)	32 (0.5 %)	280 (1.0 %)
Unknown	6,855 (19.9 %)	1,287 (23.9 %)	338 (23.1 %)	373 (26.5 %)	1,552 (23.5 %)	5,586 (19.5 %)
None	20,486 (59.6 %)	3,475 (64.5 %)	997 (68.1 %)	932 (66.2 %)	4,183 (63.5 %)	17,075 (59.6 %)
Indication from 7 days before to the index date; CPRD GOLD						
ADHD	4,527 (13.2 %)	389 (7.2 %)	62 (4.2 %)	62 (4.4 %)	555 (8.4 %)	3,816 (13.3 %)
Narcolepsy	27 (0.1 %)	-	12 (0.8 %)	-	-	17 (0.1 %)
Off label	128 (0.4 %)	31 (0.6 %)	8 (0.5 %)	5 (0.4 %)	22 (0.3 %)	97 (0.3 %)
ADHD and off label	146 (0.4 %)	7 (0.1 %)	-	6 (0.4 %)	14 (0.2 %)	132 (0.5 %)
Unknown	4,157 (12.1 %)	732 (13.6 %)	199 (13.6 %)	210 (14.9 %)	916 (13.9 %)	3,368 (11.8 %)
None	25,412 (73.9 %)	4,231 (78.5 %)	1,181 (80.7 %)	1,125 (79.9 %)	5,084 (77.1 %)	21,218 (74.1 %)

12.3.4 Drug utilisation

Table 13 shows the treatment dose and quantity of all study medications in each database.

Among five medications, a higher initial and cumulative quantity of dextroamphetamine was seen in CPRD GOLD and IPCI, followed by methylphenidate. In regards of daily dose, people who initiated atomoxetine received highest initial daily dose in all databases (median of 60mg in IQVIA LPD Belgium, and 40mg in other databases). Guanfacine showed the lowest initially daily dose of 1 to 2 mg across different databases.

Table 13. Treatment dose and quantity of all study medications in each database.

		Cohort name				
Variable name	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
IQVIA LPD Belgium						
Number records	N	120	-	25	-	5,700
Number subjects	N	104	-	25	-	4,610
Number exposures	Median [Q25 - Q75]	1 [1 - 1]	-	1 [1 - 2]	-	1 [1 - 2]
Cumulative quantity	Median [Q25 - Q75]	28 [28 - 84]	-	28 [28 - 56]	-	60 [30 - 120]
Initial quantity	Median [Q25 - Q75]	28 [28 - 56]	-	28 [28 - 56]	-	40 [30 - 80]
Initial exposure duration	Median [Q25 - Q75]	27 [27 - 27]	-	27 [27 - 55]	-	29 [19 - 39]
Days exposed	Median [Q25 - Q75]	28 [28 - 56]	-	28 [28 - 56]	-	30 [20 - 60]
Days prescribed	Median [Q25 - Q75]	28 [28 - 56]	-	28 [28 - 56]	-	30 [20 - 75]
Cumulative dose milligram	Median [Q25 - Q75]	2,240 [1,295 - 5,180]	-	112 [56 - 168]	-	900 [400 - 1,800]
Initial daily dose milligram	Median [Q25 - Q75]	60 [40 - 100]	-	2 [1 - 3]	-	20 [10 - 40]
IQVIA DA Germany						
Number records	N	4,893	844	1,515	9,794	45,517
Number subjects	N	4,662	781	1,442	9,075	40,114
Number exposures	Median [Q25 - Q75]	3 [1 - 6]	1 [1 - 4]	3 [1 - 7]	2 [1 - 5]	2 [1 - 4]
Cumulative quantity	Median [Q25 - Q75]	70 [35 - 168]	50 [30 - 150]	84 [28 - 224]	60 [30 - 180]	100 [50 - 220]
Initial quantity	Median [Q25 - Q75]	28 [28 - 56]	30 [20 - 50]	28 [28 - 28]	30 [30 - 30]	50 [50 - 70]
Initial exposure duration	Median [Q25 - Q75]	27 [27 - 55]	29 [19 - 49]	27 [27 - 27]	29 [29 - 29]	49 [29 - 49]
Days exposed	Median [Q25 - Q75]	56 [28 - 144]	50 [30 - 109]	65 [28 - 176]	60 [30 - 150]	60 [50 - 149]
Days prescribed	Median [Q25 - Q75]	63 [35 - 168]	50 [30 - 130]	84 [28 - 224]	60 [30 - 180]	100 [50 - 200]
Cumulative dose milligram	Median [Q25 - Q75]	2,240 [1,008 - 6,160]	350 [250 - 1,000]	140 [56 - 452]	2,400 [1,200 - 6,600]	1,800 [1,000 - 4,120]
Initial daily dose milligram	Median [Q25 - Q75]	40 [25 - 60]	5 [5 - 10]	1 [1 - 3]	30 [30 - 50]	20 [10 - 36]
IPCI						
Number records	N	1,350	11,198	252	4,056	54,992

		Cohort name				
Variable name	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Number subjects	N	1,276	10,015	246	3,914	46,529
Number exposures	Median [Q25 - Q75]	3 [1 - 7]	2 [1 - 4]	4 [2 - 8]	3 [1 - 6]	2 [1 - 5]
Cumulative quantity	Median [Q25 - Q75]	90 [30 - 280]	160 [60 - 434]	112 [49 - 386]	90 [30 - 240]	140 [60 - 360]
Initial quantity	Median [Q25 - Q75]	28 [15 - 35]	60 [30 - 120]	28 [28 - 30]	30 [15 - 30]	45 [30 - 90]
Initial exposure duration	Median [Q25 - Q75]	27 [13 - 29]	29 [14 - 29]	27 [18 - 27]	29 [14 - 29]	29 [14 - 39]
Days exposed	Median [Q25 - Q75]	77 [30 - 198]	50 [30 - 107]	84 [29 - 183]	74 [30 - 163]	67 [30 - 149]
Days prescribed	Median [Q25 - Q75]	90 [30 - 256]	60 [30 - 120]	108 [46 - 288]	90 [30 - 208]	86 [30 - 180]
Cumulative dose milligram	Median [Q25 - Q75]	3,582 [1,200 - 10,790]	600 [225 - 1,700]	198 [73 - 586]	2,790 [998 - 7,720]	1,800 [700 - 5,000]
Initial daily dose milligram	Median [Q25 - Q75]	40 [25 - 60]	10 [5 - 15]	1 [1 - 3]	30 [20 - 50]	25 [15 - 36]
SIDIAP						
Number records	N	8,865	-	3,507	9,517	70,455
Number subjects	N	8,215	-	3,232	8,651	59,354
Number exposures	Median [Q25 - Q75]	2 [1 - 4]	-	2 [1 - 5]	2 [1 - 3]	2 [1 - 4]
Cumulative quantity	Median [Q25 - Q75]	240 [85 - 599]	-	313 [118 - 727]	283 [106 - 627]	322 [90 - 826]
Initial quantity	Median [Q25 - Q75]	90 [33 - 217]	-	89 [30 - 208]	117 [46 - 256]	113 [34 - 301]
Initial exposure duration	Median [Q25 - Q75]	74 [28 - 180]	-	74 [28 - 179]	116 [47 - 250]	90 [30 - 227]
Days exposed	Median [Q25 - Q75]	184 [70 - 425]	-	224 [91 - 466]	240 [92 - 524]	219 [79 - 549]
Days prescribed	Median [Q25 - Q75]	205 [80 - 477]	-	262 [103 - 603]	252 [98 - 586]	255 [90 - 694]
Cumulative dose milligram	Median [Q25 - Q75]	7,992 [2,375 - 21,620]	-	512 [170 - 1,463]	9,720 [3,480 - 25,300]	6,200 [1,620 - 19,440]
Initial daily dose milligram	Median [Q25 - Q75]	40 [25 - 61]	-	2 [1 - 3]	30 [30 - 50]	27 [17 - 40]
CPRD GOLD						
Number records	N	5,390	1,464	1,408	6,592	28,648
Number subjects	N	5,075	1,372	1,355	6,279	26,245
Number exposures	Median [Q25 - Q75]	3 [1 - 9]	2 [1 - 7]	5 [2 - 15]	4 [1 - 11]	4 [2 - 12]
Cumulative quantity	Median [Q25 - Q75]	112 [49 - 308]	168 [60 - 504]	168 [56 - 478]	112 [35 - 336]	150 [60 - 480]
Initial quantity	Median [Q25 - Q75]	28 [28 - 56]	56 [30 - 90]	28 [28 - 28]	28 [28 - 28]	30 [30 - 60]

		Cohort name				
Variable name	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate
Initial exposure duration	Median [Q25 - Q75]	27 [27 - 27]	27 [27 - 29]	27 [27 - 27]	27 [27 - 27]	29 [27 - 29]
Days exposed	Median [Q25 - Q75]	72 [28 - 201]	56 [28 - 154]	120 [42 - 379]	86 [28 - 275]	88 [30 - 264]
Days prescribed	Median [Q25 - Q75]	84 [28 - 252]	57 [28 - 185]	142 [56 - 448]	112 [28 - 310]	114 [37 - 358]
Cumulative dose milligram	Median [Q25 - Q75]	3,360 [1,295 - 10,611]	840 [300 - 2,872]	273 [84 - 1,041]	3,920 [1,400 - 13,612]	2,550 [990 - 9,022]
Initial daily dose milligram	Median [Q25 - Q75]	40 [25 - 60]	10 [8 - 20]	1 [1 - 3]	30 [30 - 50]	20 [15 - 36]

Table 14 showed the summary of medication utilisation for methylphenidate in each database, stratified by age group. Results for other stratifications are presented in the shiny app.

In IQVIA LPD Belgium, IQVIA DA Germany, SIDIAP and CPRD data, we observed similar patterns that the youngest and the oldest groups had lower initial dose compared to those ages 11 – 24. In IPCI, the 3 to 11 years old group had a median initial dose 15mg (IQR 10-25) for methylphenidate. Initial dose was similar in other age groups.

People received a very low median of prescriptions during the treatment episode (max being of 6 (IQR 2-19) among the 3 to 11-year-old group in the CPRD), with a median exposed time since the initial prescription often below 100 days, except in SIDIAP with a median exposed time above 200 days in the age groups 3 to 11 and 12 to 17.

Table 14. Treatment dose and quantity of methylphenidate by age group.

		Cohort name				
		Methylphenidate				
		Age group				
Variable name	Estimate name	overall	3 to 11	12 to 17	18 to 24	25 +
IQVIA LPD Belgium						
Number records	N	5,700	1,007	1,526	1,406	1,761
Number subjects	N	4,610	915	1,334	1,214	1,485
Number exposures	Median [Q25 - Q75]	1 [1 - 2]	1 [1 - 2]	1 [1 - 2]	1 [1 - 2]	1 [1 - 2]
Cumulative quantity	Median [Q25 - Q75]	60 [30 - 120]	60 [30 - 120]	60 [30 - 120]	60 [30 - 120]	40 [30 - 100]
Initial quantity	Median [Q25 - Q75]	40 [30 - 80]	40 [30 - 90]	60 [30 - 90]	40 [30 - 90]	30 [30 - 60]
Initial exposure duration	Median [Q25 - Q75]	29 [19 - 39]	29 [19 - 59]	29 [19 - 59]	29 [19 - 39]	29 [19 - 29]
Days exposed	Median [Q25 - Q75]	30 [20 - 60]	30 [20 - 60]	30 [26 - 71]	30 [20 - 60]	30 [20 - 60]
Days prescribed	Median [Q25 - Q75]	30 [20 - 75]	30 [20 - 74]	30 [28 - 90]	30 [20 - 60]	30 [20 - 70]
Cumulative dose milligram	Median [Q25 - Q75]	900 [400 - 1,800]	750 [400 - 1,500]	1,000 [600 - 2,190]	900 [400 - 1,980]	800 [300 - 1,800]
Initial daily dose milligram	Median [Q25 - Q75]	20 [10 - 40]	20 [10 - 30]	30 [20 - 43]	29 [10 - 40]	20 [10 - 40]
IQVIA DA Germany						
Number records	N	45,517	15,916	13,424	5,336	10,841
Number subjects	N	40,114	15,256	12,609	4,988	9,438
Number exposures	Median [Q25 - Q75]	2 [1 - 4]	2 [1 - 6]	2 [1 - 4]	2 [1 - 3]	2 [1 - 4]
Cumulative quantity	Median [Q25 - Q75]	100 [50 - 220]	100 [50 - 270]	90 [50 - 170]	100 [50 - 168]	104 [52 - 260]
Initial quantity	Median [Q25 - Q75]	50 [50 - 70]	50 [30 - 56]	50 [30 - 60]	52 [50 - 80]	52 [50 - 100]
Initial exposure duration	Median [Q25 - Q75]	49 [29 - 49]	49 [29 - 49]	49 [29 - 49]	49 [29 - 51]	49 [29 - 51]
Days exposed	Median [Q25 - Q75]	60 [50 - 149]	80 [50 - 190]	57 [50 - 120]	56 [50 - 106]	62 [50 - 150]
Days prescribed	Median [Q25 - Q75]	100 [50 - 200]	100 [50 - 250]	78 [50 - 150]	78 [50 - 152]	100 [50 - 210]
Cumulative dose milligram	Median [Q25 - Q75]	1,800 [1,000 - 4,120]	1,500 [810 - 4,200]	1,800 [1,000 - 3,700]	2,000 [1,000 - 4,000]	2,000 [1,000 - 4,800]
Initial daily dose milligram	Median [Q25 - Q75]	20 [10 - 36]	18 [10 - 27]	30 [20 - 40]	30 [20 - 40]	20 [10 - 40]

		Cohort name				
		Methylphenidate				
		Age group				
Variable name	Estimate name	overall	3 to 11	12 to 17	18 to 24	25 +
IPCI						
Number records	N	54,992	11,626	13,736	10,057	19,573
Number subjects	N	46,529	11,128	12,642	8,975	17,048
Number exposures	Median [Q25 - Q75]	2 [1 - 5]	3 [1 - 8]	2 [1 - 4]	1 [1 - 3]	2 [1 - 5]
Cumulative quantity	Median [Q25 - Q75]	140 [60 - 360]	210 [90 - 555]	120 [60 - 270]	90 [45 - 240]	150 [60 - 390]
Initial quantity	Median [Q25 - Q75]	45 [30 - 90]	30 [30 - 90]	60 [30 - 90]	50 [30 - 90]	50 [30 - 90]
Initial exposure duration	Median [Q25 - Q75]	29 [14 - 39]	29 [14 - 39]	29 [14 - 59]	29 [14 - 39]	29 [14 - 29]
Days exposed	Median [Q25 - Q75]	67 [30 - 149]	100 [46 - 249]	75 [30 - 131]	45 [30 - 90]	60 [30 - 140]
Days prescribed	Median [Q25 - Q75]	86 [30 - 180]	120 [60 - 330]	90 [30 - 180]	60 [30 - 120]	65 [30 - 180]
Cumulative dose milligram	Median [Q25 - Q75]	1,800 [700 - 5,000]	2,000 [800 - 6,000]	1,860 [900 - 4,860]	1,350 [600 - 3,600]	1,800 [600 - 5,603]
Initial daily dose milligram	Median [Q25 - Q75]	25 [15 - 36]	15 [10 - 25]	27 [18 - 36]	30 [18 - 38]	30 [18 - 40]
SIDIAP						
Number records	N	70,455	24,465	23,157	5,980	16,853
Number subjects	N	59,354	22,742	21,373	5,630	15,222
Number exposures	Median [Q25 - Q75]	2 [1 - 4]	2 [1 - 5]	2 [1 - 3]	2 [1 - 3]	2 [1 - 3]
Cumulative quantity	Median [Q25 - Q75]	322 [90 - 826]	360 [100 - 1,030]	318 [104 - 746]	351 [103 - 754]	241 [62 - 730]
Initial quantity	Median [Q25 - Q75]	113 [34 - 301]	113 [33 - 294]	126 [45 - 319]	147 [45 - 364]	86 [30 - 240]
Initial exposure duration	Median [Q25 - Q75]	90 [30 - 227]	90 [30 - 212]	111 [35 - 250]	120 [37 - 309]	69 [30 - 180]
Days exposed	Median [Q25 - Q75]	219 [79 - 549]	262 [91 - 684]	224 [91 - 499]	222 [89 - 486]	170 [57 - 470]
Days prescribed	Median [Q25 - Q75]	255 [90 - 694]	302 [93 - 844]	272 [101 - 665]	256 [91 - 629]	181 [61 - 541]
Cumulative dose milligram	Median [Q25 - Q75]	6,200 [1,620 - 19,440]	5,950 [1,540 - 19,998]	8,077 [2,477 - 21,645]	7,300 [2,160 - 20,274]	3,528 [810 - 13,781]
Initial daily dose milligram	Median [Q25 - Q75]	27 [17 - 40]	20 [14 - 30]	36 [20 - 53]	36 [18 - 53]	18 [10 - 36]
CPRD GOLD						
Number records	N	28,648	11,130	7,919	3,958	5,641

		Cohort name				
		Methylphenidate				
		Age group				
Variable name	Estimate name	overall	3 to 11	12 to 17	18 to 24	25 +
Number subjects	N	26,245	10,789	7,594	3,697	5,280
Number exposures	Median [Q25 - Q75]	4 [2 - 12]	6 [2 - 19]	3 [1 - 9]	2 [1 - 6]	4 [1 - 11]
Cumulative quantity	Median [Q25 - Q75]	150 [60 - 480]	224 [77 - 776]	120 [58 - 336]	90 [56 - 240]	150 [60 - 458]
Initial quantity	Median [Q25 - Q75]	30 [30 - 60]	30 [30 - 60]	30 [30 - 60]	30 [30 - 60]	30 [30 - 60]
Initial exposure duration	Median [Q25 - Q75]	29 [27 - 29]	29 [27 - 29]	29 [27 - 29]	29 [27 - 29]	29 [27 - 29]
Days exposed	Median [Q25 - Q75]	88 [30 - 264]	128 [45 - 419]	68 [30 - 199]	59 [30 - 139]	84 [30 - 240]
Days prescribed	Median [Q25 - Q75]	114 [37 - 358]	159 [58 - 562]	90 [30 - 270]	60 [30 - 180]	108 [30 - 318]
Cumulative dose milligram	Median [Q25 - Q75]	2,550 [990 - 9,022]	2,815 [900 - 11,265]	2,330 [1,008 - 7,494]	2,100 [1,008 - 5,670]	3,132 [1,080 - 10,494]
Initial daily dose milligram	Median [Q25 - Q75]	20 [15 - 36]	18 [10 - 30]	30 [18 - 45]	30 [18 - 54]	25 [18 - 50]

12.3.5 Total number of treatments

Table 15 below describes the number of prescriptions patients received, and times to the last treatment since they initiated the first ADHD medication, stratified by the initial medication. In IQVIA Belgium, IQVIA Germany, IPCI, SIDIAP, and CPRD GOLD, patients received a median of 2 [IQR 1-5], 5 [2-16], 7 [3-17], 4 [2-9], and 16 [5 - 40] prescriptions, respectively. While the number of prescriptions received was different based on initial medication used, we observed that the median number was systematically higher for patients who initiated methylphenidate as compared to other medications within each database.

Table 15. Number of prescriptions and total time on treatment, stratified by initial medication

					Initial medication			
Variable name	Variable level	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate	Overall
IQVIA Belgium								
Number subjects	-	N	-	-	7	-	3,705	3,712
Time to last ADHD medication record	Days	Median (IQR)	-	-	284 [96 - 862]	-	186 [29 - 711]	187 [29 - 712]
Number of prescriptions	Any ADHD medication	Median (IQR)	-	-	3 [2 - 7]	-	2 [1 - 5]	2 [1 - 5]
	Atomoxetine	Median (IQR)	-	-	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Dextroamphetamine	Median (IQR)	-	-	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Guanfacine	Median (IQR)	-	-	2 [1 - 5]	-	0 [0 - 0]	0 [0 - 0]
	Lisdexamfetamine	Median (IQR)	-	-	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Methylphenidate	Median (IQR)	-	-	0 [0 - 0]	-	2 [1 - 5]	2 [1 - 5]
IQVIA Germany								
Number subjects	-	N	-	128	338	-	24,775	25,241
Time to last ADHD medication record	Days	Median (IQR)	-	378 [52 - 1,097]	211 [27 - 782]	-	428 [77 - 1,172]	425 [77 - 1,166]
Number of prescriptions	Any ADHD medication	Median (IQR)	-	5 [2 - 16]	3 [1 - 13]	-	6 [2 - 16]	5 [2 - 16]
	Atomoxetine	Median (IQR)	-	0 [0 - 0]	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Dextroamphetamine	Median (IQR)	-	3 [1 - 10]	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Guanfacine	Median (IQR)	-	0 [0 - 0]	3 [1 - 10]	-	0 [0 - 0]	0 [0 - 0]
	Lisdexamfetamine	Median (IQR)	-	0 [0 - 1]	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]
	Methylphenidate	Median (IQR)	-	0 [0 - 0]	0 [0 - 0]	-	4 [1 - 13]	4 [1 - 13]
IPCI								
Number subjects	-	N	233	3,013	35	526	31,158	34,965

					Initial medication			
Variable name	Variable level	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate	Overall
Time to last ADHD medication record	Days	Median (IQR)	262 [48 - 916]	430 [89 - 1,228]	197 [32 - 639]	323 [89 - 669]	487 [108 - 1,280]	476 [105 - 1,255]
Number of prescriptions	Any ADHD medication	Median (IQR)	5 [2 - 13]	6 [2 - 15]	4 [2 - 12]	6 [2 - 12]	7 [3 - 18]	7 [3 - 17]
	Atomoxetine	Median (IQR)	3 [1 - 7]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Dextroamphetamine	Median (IQR)	0 [0 - 0]	4 [2 - 12]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Guanfacine	Median (IQR)	0 [0 - 0]	0 [0 - 0]	3 [1 - 9]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Lisdexamfetamine	Median (IQR)	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	4 [2 - 10]	0 [0 - 0]	0 [0 - 0]
	Methylphenidate	Median (IQR)	0 [0 - 0]	0 [0 - 0]	0 [0 - 1]	0 [0 - 0]	6 [2 - 15]	5 [2 - 14]
SIDIAP								
Number subjects	-	N	3,559	-	728	1,721	53,904	59,912
Time to last ADHD medication record	Days	Median (IQR)	572 [181 - 1,550]	-	440 [139 - 1,078]	463 [150 - 1,230]	802 [229 - 1,924]	772 [220 - 1,871]
Number of prescriptions	Any ADHD medication	Median (IQR)	4 [2 - 8]	-	4 [2 - 7]	3 [1 - 6]	4 [2 - 9]	4 [2 - 9]
	Atomoxetine	Median (IQR)	3 [1 - 5]	-	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Dextroamphetamine	Median (IQR)	0 [0 - 0]	-	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Guanfacine	Median (IQR)	0 [0 - 0]	-	3 [1 - 6]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Lisdexamfetamine	Median (IQR)	0 [0 - 0]	-	0 [0 - 0]	2 [1 - 4]	0 [0 - 0]	0 [0 - 0]
	Methylphenidate	Median (IQR)	0 [0 - 1]	-	0 [0 - 0]	0 [0 - 0]	4 [2 - 8]	3 [1 - 7]
CPRD GOLD								
Number subjects	-	N	1,878	370	245	2,233	20,470	25,196
Time to last ADHD medication record	Days	Median (IQR)	440 [102 - 1,223]	434 [94 - 1,032]	411 [129 - 1,012]	437 [171 - 915]	689 [231 - 1,550]	634 [207 - 1,440]
Number of prescriptions	Any ADHD medication	Median (IQR)	10 [3 - 31]	11 [3 - 28]	10 [3 - 28]	12 [4 - 27]	17 [6 - 43]	16 [5 - 40]
	Atomoxetine	Median (IQR)	6 [2 - 18]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Dextroamphetamine	Median (IQR)	0 [0 - 0]	5 [2 - 15]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]

					Initial medication			
Variable name	Variable level	Estimate name	Atomoxetine	Dextroamphetamine	Guanfacine	Lisdexamfetamine	Methylphenidate	Overall
	Guanfacine	Median (IQR)	0 [0 - 0]	0 [0 - 0]	7 [3 - 21]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]
	Lisdexamfetamine	Median (IQR)	0 [0 - 0]	0 [0 - 3]	0 [0 - 0]	9 [3 - 21]	0 [0 - 0]	0 [0 - 0]
	Methylphenidate	Median (IQR)	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	0 [0 - 0]	14 [4 - 37]	9 [2 - 30]

12.3.6 Proportion of patients covered.

The following table summarised the PPC among people who initiated each of the study medication during the first 4 years after initiation.

After 6 months of medication initiation, the PPC of any ADHD medication was 7%, 29%, 29%, 63%, and 44% in IQVIA LPD Belgium, IQVIA DA Germany, IPCI, SIDIAP, and CPRD GOLD respectively. As expected, the PPC dropped at 1 and 2 years after initiation (as an example, from 28% to 14% and then 8% in Germany). We observed a higher PPC in SIDIAP during the follow—up as compared to other databases.

Table 16. Proportion of patients covered since initiation, by database.

	Cohort name					
time	Any ADHD medication	Atomoxetine	Guanfacine	Methylphenidate	Dextroamphetamine	Lisdexamfetamine
IQVIA LPD Belgium						
180 days	6.5% [5.8% - 7.3%]	-	-	6.6% [5.8% - 7.4%]	-	-
1 year	1.7% [1.3% - 2.2%]	-	-	1.8% [1.4% - 2.2%]	-	-
2 years	3.0% [2.4% - 3.7%]	-	-	3.0% [2.4% - 3.7%]	-	-
3 years	2.8% [2.2% - 3.6%]	-	-	2.8% [2.2% - 3.6%]	-	-
4 years	1.8% [1.2% - 2.6%]	-	-	1.9% [1.3% - 2.8%]	-	-
IQVIA DA Germany						
180 days	28.7% [28.3% - 29.2%]	27.2% [25.8% - 28.6%]	32.6% [30.0% - 35.2%]	27.5% [27.1% - 28.0%]	20.7% [17.9% - 23.9%]	29.0% [28.0% - 30.0%]
1 year	14.9% [14.5% - 15.2%]	13.9% [12.8% - 15.1%]	19.0% [16.8% - 21.5%]	13.7% [13.3% - 14.1%]	11.5% [9.2% - 14.3%]	15.2% [14.3% - 16.1%]
2 years	8.4% [8.1% - 8.7%]	5.6% [4.8% - 6.5%]	9.2% [7.4% - 11.4%]	7.6% [7.3% - 8.0%]	4.9% [3.3% - 7.2%]	8.4% [7.6% - 9.3%]
3 years	6.0% [5.7% - 6.4%]	3.3% [2.6% - 4.2%]	6.0% [4.3% - 8.3%]	5.1% [4.8% - 5.5%]	2.6% [1.4% - 4.9%]	6.6% [5.8% - 7.6%]
4 years	4.9% [4.5% - 5.2%]	2.0% [1.5% - 2.9%]	5.7% [3.8% - 8.5%]	4.1% [3.8% - 4.4%]	-	5.1% [4.2% - 6.1%]
5 years	4.0% [3.6% - 4.3%]	2.0% [1.3% - 3.0%]	2.7% [1.2% - 5.7%]	3.3% [3.0% - 3.6%]	-	3.9% [3.0% - 5.1%]
IPCI						
180 days	29.4% [29.0% - 29.9%]	31.3% [28.8% - 34.0%]	33.3% [27.3% - 40.0%]	27.8% [27.4% - 28.3%]	20.0% [19.2% - 20.9%]	31.4% [29.8% - 33.1%]
1 year	16.0% [15.7% - 16.4%]	18.7% [16.4% - 21.2%]	23.0% [17.5% - 29.8%]	15.1% [14.8% - 15.5%]	10.0% [9.3% - 10.7%]	17.6% [16.2% - 19.2%]
2 years	9.9% [9.6% - 10.2%]	9.4% [7.6% - 11.7%]	10.9% [6.5% - 17.8%]	9.2% [8.9% - 9.5%]	5.9% [5.3% - 6.5%]	10.9% [9.4% - 12.6%]
3 years	7.1% [6.8% - 7.4%]	7.3% [5.5% - 9.6%]	10.1% [5.2% - 18.7%]	6.6% [6.3% - 6.9%]	4.4% [3.9% - 5.1%]	6.9% [5.3% - 8.9%]
4 years	5.5% [5.2% - 5.8%]	5.3% [3.7% - 7.7%]	-	5.0% [4.7% - 5.3%]	3.8% [3.2% - 4.5%]	4.4% [2.6% - 7.4%]
5 years	4.5% [4.2% - 4.8%]	2.2% [1.2% - 4.2%]	-	4.1% [3.8% - 4.4%]	3.3% [2.6% - 4.0%]	-
SIDIAP						
180 days	62.6% [62.2% - 63.0%]	54.9% [53.8% - 56.0%]	62.4% [60.6% - 64.1%]	61.2% [60.8% - 61.6%]	-	64.4% [63.4% - 65.5%]
1 year	43.9% [43.5% - 44.3%]	33.3% [32.2% - 34.4%]	39.6% [37.8% - 41.4%]	42.2% [41.8% - 42.6%]	-	41.0% [39.9% - 42.1%]

	Cohort name					
time	Any ADHD medication	Atomoxetine	Guanfacine	Methylphenidate	Dextroamphetamine	Lisdexamfetamine
2 years	29.8% [29.4% - 30.2%]	17.8% [17.0% - 18.8%]	25.3% [23.6% - 27.1%]	27.6% [27.2% - 28.0%]	-	25.2% [24.2% - 26.3%]
3 years	23.2% [22.8% - 23.6%]	12.2% [11.4% - 13.0%]	19.2% [17.4% - 21.0%]	20.8% [20.4% - 21.1%]	-	18.7% [17.8% - 19.7%]
4 years	18.7% [18.3% - 19.1%]	8.7% [8.0% - 9.4%]	16.5% [14.6% - 18.5%]	16.3% [15.9% - 16.6%]	-	15.1% [14.1% - 16.0%]
5 years	15.5% [15.1% - 15.8%]	6.4% [5.8% - 7.2%]	15.8% [13.7% - 18.2%]	13.0% [12.7% - 13.3%]	-	12.4% [11.4% - 13.4%]
CPRD GOLD						
180 days	44.1% [43.5% - 44.7%]	34.6% [33.2% - 36.0%]	49.0% [46.2% - 51.9%]	42.4% [41.8% - 43.0%]	32.0% [29.4% - 34.8%]	44.5% [43.2% - 45.8%]
1 year	30.8% [30.2% - 31.4%]	21.3% [20.1% - 22.6%]	37.8% [34.9% - 40.8%]	28.9% [28.3% - 29.5%]	20.0% [17.6% - 22.8%]	31.1% [29.8% - 32.4%]
2 years	21.6% [21.1% - 22.2%]	13.7% [12.6% - 14.9%]	29.2% [26.0% - 32.5%]	19.4% [18.8% - 20.0%]	14.2% [11.8% - 17.0%]	21.6% [20.3% - 23.1%]
3 years	17.3% [16.7% - 17.9%]	9.5% [8.4% - 10.6%]	23.1% [19.9% - 26.8%]	14.9% [14.3% - 15.6%]	8.2% [6.1% - 10.8%]	17.6% [16.1% - 19.2%]
4 years	13.9% [13.3% - 14.6%]	7.6% [6.6% - 8.8%]	19.0% [15.5% - 23.0%]	12.0% [11.4% - 12.6%]	5.1% [3.4% - 7.7%]	15.2% [13.6% - 17.0%]
5 years	12.2% [11.5% - 12.8%]	5.5% [4.6% - 6.7%]	14.8% [11.1% - 19.5%]	10.1% [9.5% - 10.8%]	5.8% [3.8% - 8.9%]	13.2% [11.4% - 15.2%]

Among all five medications of interest, we observed a higher PPC among people who initiate guanfacine in all databases. The 6-month PPC of guanfacine were 33%, 33%, 62% and 49% in IQVIA DA Germany, IPCI, SIDIAP and CPRD, respectively.

We also estimated the PPC for age and sex stratified groups. **Figure 15** showed the PPC of any ADHD medication among different age and sex groups in SIDIAP. After initiation, patients in the 3 to 11 years old groups showed better persistence as compared to other three age groups.

Results for other medications in each database are available in the online shiny app.

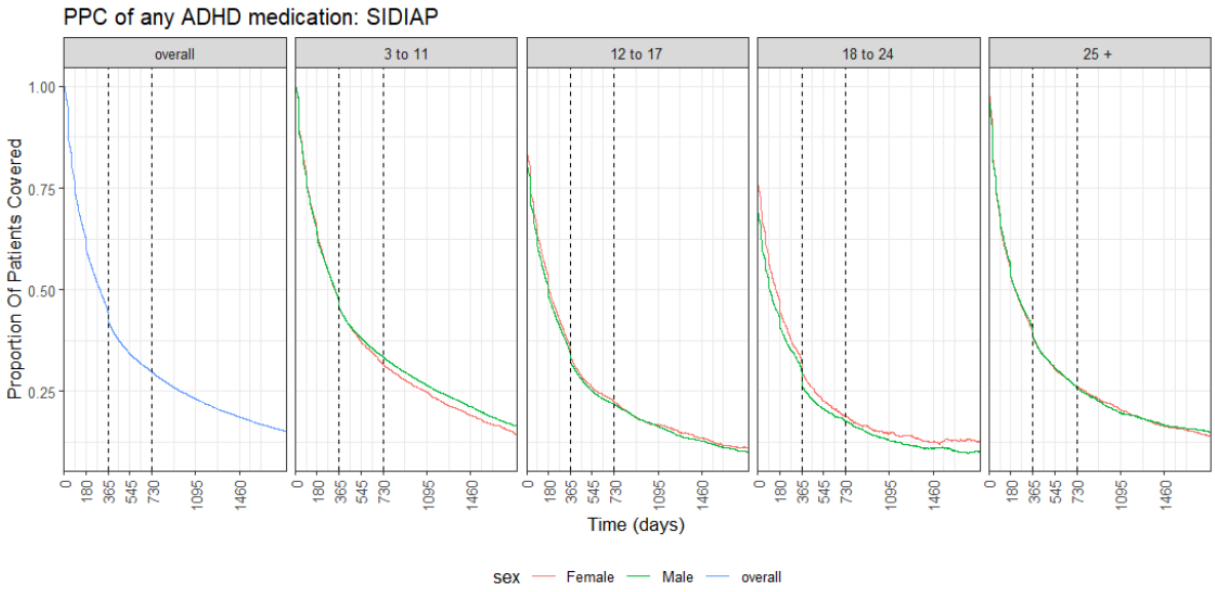


Figure 15. Proportion of patients covered of using any ADHD medication by age and sex group, SIDIAP.

12.3.7 Treatment patterns

Among people who started any of the study medication during the study period, we illustrated the treatment pathways using Sankey diagrams.

In all databases, the most common first line treatment was methylphenidate, followed by lisdexamfetamine and atomoxetine. Most people stopped the treatment after initiation, while a small proportion of people switch to another medication. **Figures 16 - 19** shows the overall treatment pathway in each database. In IQVIA LPD Belgium data, all new users of ADHD medication during the study period started with methylphenidate then stopped. We were not able to present the Sanky plot for this database as there was only one "pathway" of treatment.

Further stratification by age groups, sex, and calendar period can be visualised in the shiny app.

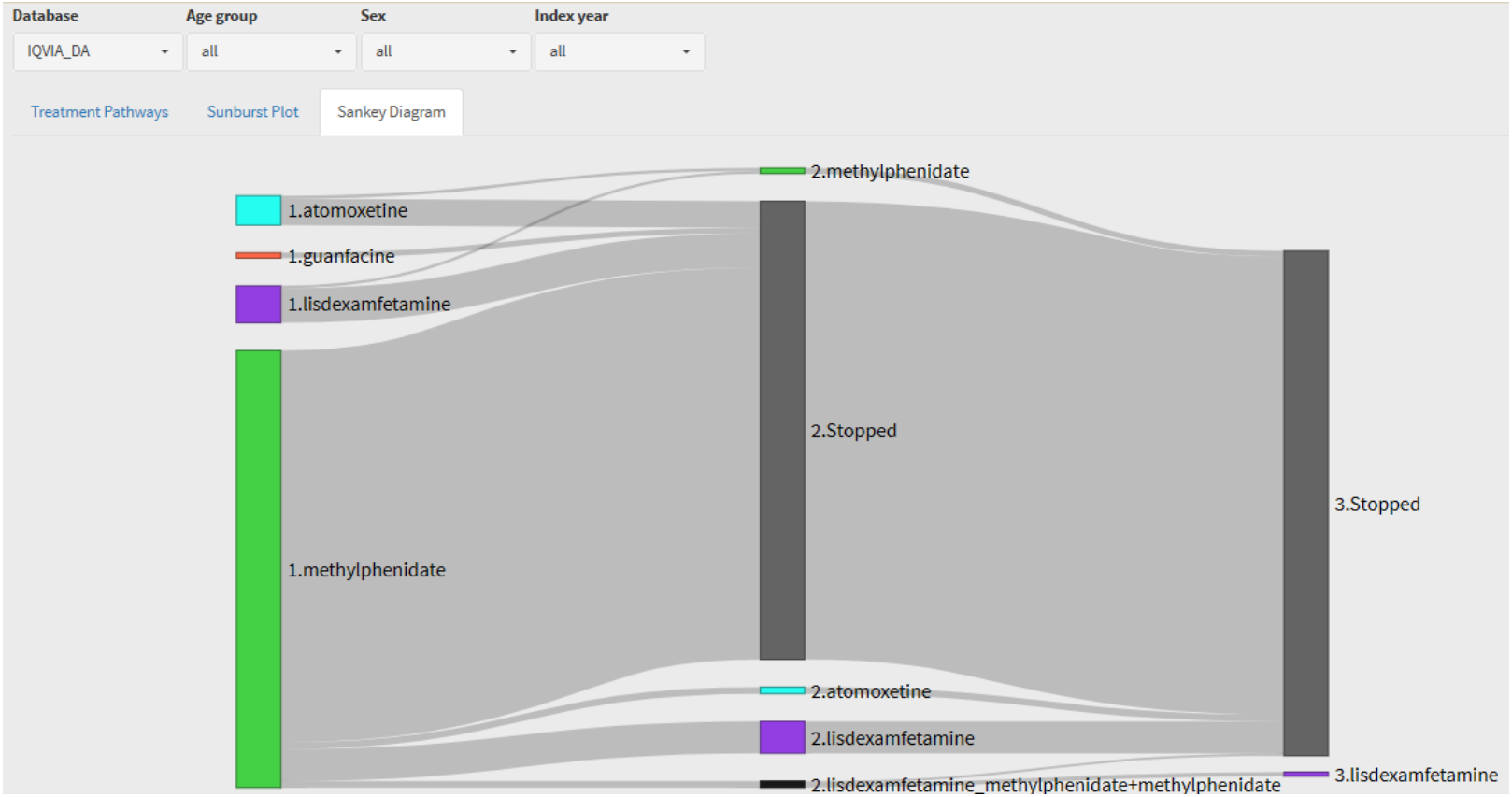


Figure 16. Sankey diagram of ADHD medication treatment pathway (IQVIA DA Germany).

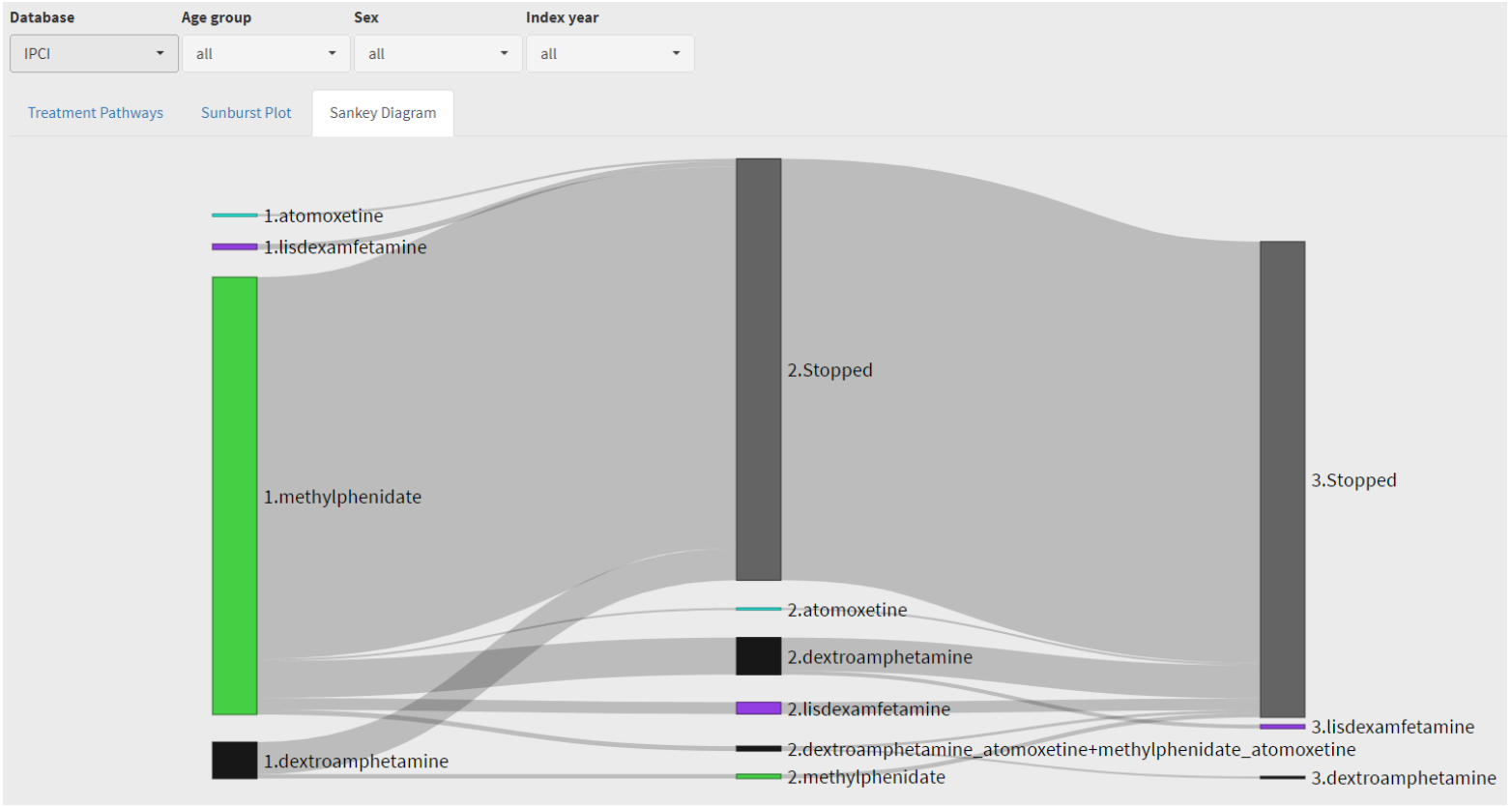


Figure 17. Sankey diagram of ADHD medication treatment pathway (IPCI).

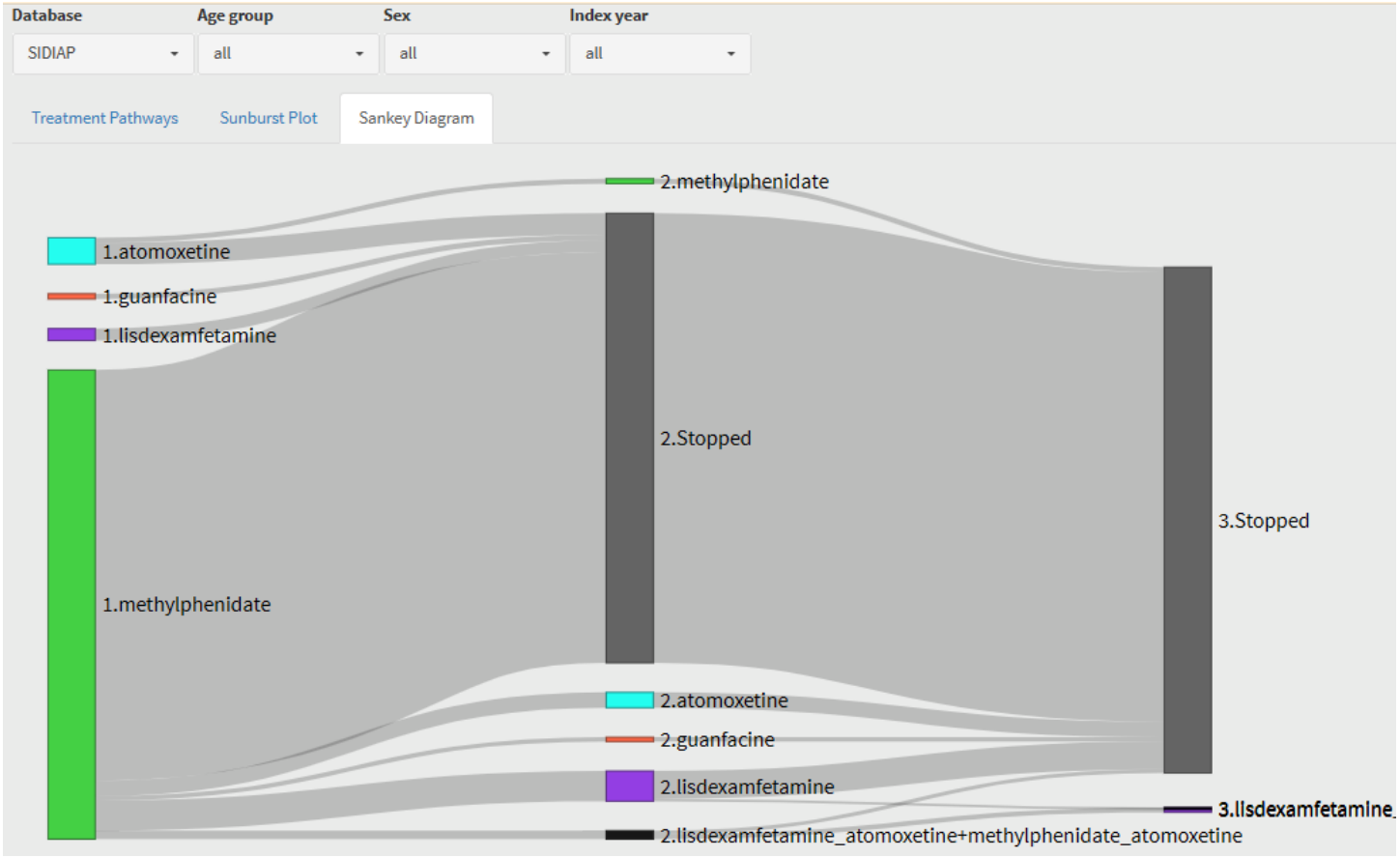
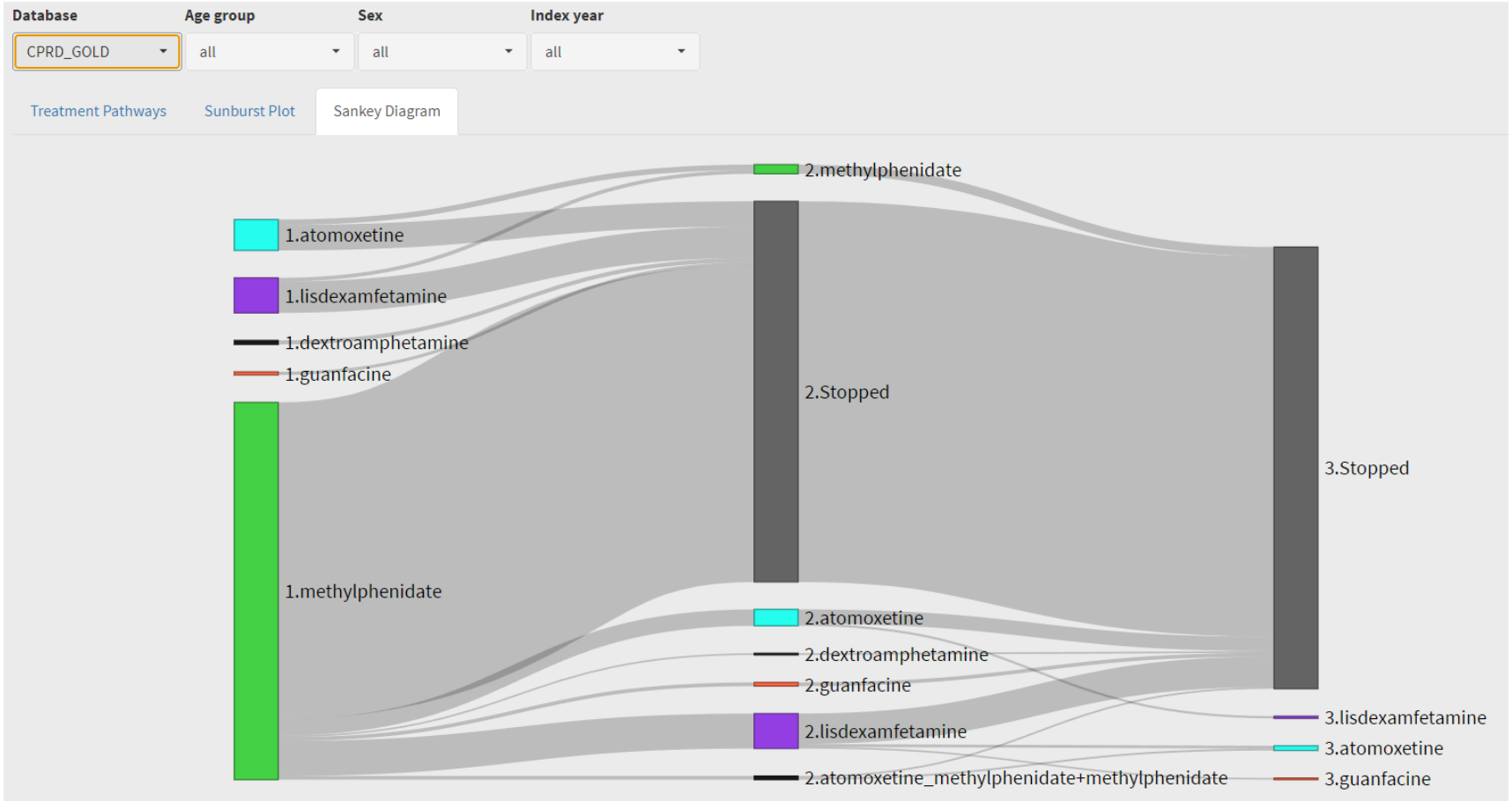


Figure 18. Sankey diagram of ADHD medication treatment pathway (SIDIAP).



Note: Stopped refers to patient stopping treatment without initiation of another study medication within their observation period.

Figure 19. Sankey diagram of ADHD medication treatment pathway (CPRD GOLD).

12.4 Other analysis

Results from the sensitivity analysis where we allowed 90-day gap between records of drug exposure are available in the shiny app online.

13. MANAGEMENT AND REPORTING OF ADVERSE EVENTS/ADVERSE REACTIONS

Adverse events/adverse reactions were not collected or analysed as part of this evaluation. The nature of this non-interventional evaluation, through the use of secondary data, does not fulfil the criteria for reporting adverse events, according to module VI, VI.C.1.2.1.2 of the Good Pharmacovigilance Practices (https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/guideline-good-pharmacovigilance-practices-gvp-module-vi-collection-management-submission-reports_en.pdf).

Only in case of prospective data collection, there is a need to describe the procedures for the collection, management and reporting of individual cases of adverse events/adverse reactions.

14. DISCUSSION

14.1 Key results

Five databases were selected from the DARWIN-EU network to characterise the use of attention-deficit hyperactivity disorder medications, including four EU databases and one from the UK. Methylphenidate was the most used medication in all databases, but the extent and trend of use over time varied markedly across the countries.

Overall, the prevalence rates of all five study medications increased among people aged 18 or over in all five countries. Among children aged 3 to 17, the prevalence of methylphenidate and atomoxetine use decreased in most databases (rates in IQVIA DA Germany, IPCI, and SIDIAP decreased for both medications, rates in CPRD GOLD decreased for atomoxetine), while prevalence of lisdexamfetamine and guanfacine increased in the past decade in all databases. We also estimated the incident use of ADHD medications and observed that the time trend of incidence rates varied by database, age and sex groups. While the incidence rates of methylphenidate among children aged 3 to 17 years old decreased in the past few years (incidence rates decreased since 2011 in IQVIA DA Germany, since 2016 in IPCI, since 2010 in SIDIAP, since 2019 in CPRD GOLD), we observed that the incidence rates increased among adults in IQVIA DA Germany and CPRD GOLD during the study period.

Only a small percentage of patients had records of ADHD diagnosis before initiation of medications. In most of the databases, we observed similar patterns that the youngest and the oldest groups had lower initial dose compared to those ages 11 to 24. Most people had a median of 2-4 prescriptions of the initial medication after initiation. In the analysis of treatment patterns, the most frequent first-line treatment was methylphenidate, switch of treatment was not frequently observed.

14.2 Limitations of the research methods

The study used routinely collected health care data that were not collected for research purpose. A recording of a prescription or dispensation does not mean that the patient actually took the drug.

In objectives 3 to 4 where we looked at incident use of a specific study medicine at drug substance level, the washout window was applied at drug substance level, meaning that the use of that medicine could be an add-on treatment, a switch from previous medicine, or a true new user.

The indications of the study medications have been defined using diagnosis code only, no validation of the phenotypes have been conducted. Also, some of the conditions are usually diagnosed by specialist, the data from which may not be available in the included databases. In addition, the recording of events used for patient characterisation and identification of the (potential) indication may vary across databases and recording of indication may be incomplete. Reduced health care access during the pandemic may lead to delay in diagnostics for indication and subsequent prescriptions of study medications. It could also be possible that patient acquired the medications via other methods which were not captured by the existing data.

As mentioned in previous section, two of the included databases (IQVIA LPD Belgium and IQVIA DA Germany) defined the observation period based on patient visit rather than records of registration with practice and/ or death record. Therefore, the assumption that a patient belonged to a practice (i.e. contributed to the denominator) can only be made for dates between the first and last visit of the patient. This has a strong impact towards the database end resulting in a much-reduced denominator as the full denominator depends on the frequency of visits including future visits that have not yet taken place, which could lead to increase in prevalence or incidence towards the end of data availability in the database. To mitigate this, analyses of incidence and prevalence within the 6 months before the last data availability in the database should not be interpreted.

14.3 Interpretation

There has been a worldwide shortage of ADHD medicines since September 2023 because of increasing demand and manufacturing problems. [1] Understanding the trends in use of ADHD medication is important for anticipation and planning to minimise potential shortages.

Trends in ADHD medication use among both children and adults have been studied previously with databases of different type across the world.[20–29] The findings in our study are largely in line with other literatures. However, previous studies usually used older data, especially before the Covid-19 pandemic, included only single database, and most of them estimated only prevalence use as there was no reliable denominator estimate.

Trends in prevalence of ADHD medications

Our findings align with other studies documenting the prevalence of ADHD medication in Europe.

A multi-database study with population-based databases from 13 countries around the world reported that the prevalence of ADHD medication uses among children increased during 2001 to 2015 in all included countries. Within Europe, the study also observed higher prevalence among northern Europe than western Europe.[23] Another study used data from Denmark, Germany, the Netherlands, UK, and the US during 2005 to 2012 reported that among children and adolescents, the prevalence of ADHD medication use was higher in the US, followed by the Netherlands, Germany, Denmark, then the UK.[24] In the current study among the 3 to 17 years group, we observed highest prevalence of methylphenidate use in the Netherlands, followed by Spain, Germany, and then UK.

Studies using electronic health records from the UK showed that the prevalence use of ADHD medication increased in both male and female across all age groups during 1995 to 2018.[20–22] In our study, we observed that the increase trends continued until 2022.

Changes in prevalences of use can be explained by both changing in number of new users and changing in treatment duration once ADHD medication is initiated, and changes of alternative medications.

Incident use of ADHD medications

Less published studies estimated the incidence use of ADHD medications.

A previous study using the UK IQVIA Medical Research Data estimated the incident use of any ADHD medication from 2000 to 2018, and reported that the incidence increased in all age groups during the study period.[22] In this study, we observed that in the UK data, the incident use of methylphenidate increased during 2010 to 2018 in all age groups, then started to decrease in the younger population. While the reason of the change in incidence use remains unclear, it is worth noting that the National Institute for Health and Care Excellence (NICE) published new guidelines on the management and treatment of ADHD in 2018. [30] The updated guideline recommends methylphenidate as the first-line pharmacological treatment for children over five, adolescents and adults with ADHD and lisdexamfetamine for adults only. The decreased incidence use of methylphenidate in the younger population could be related to the approval of alternative medications. For example, the incidence use of dextroamphetamine, and lisdexamfetamine increased among the 3 to 11 years during the study period.

Utilisation of ADHD medications

In the current study, we reported numbers and percentage of patients with a diagnosis code of ADHD on or before the initiation of medications and found that only a small percentage of patients had corresponding diagnosis even with longer lookback period. This may be because ADHD medications are generally initiated in secondary care, then transferred to primary care once stabilised.

The initial doses and quantity of studied medications were in line with clinical guidelines.

A recent study focused on the discontinuation and persistence with data from eight countries.[29] The study reported that within 1 year of initiation, 65% children(4-11 yrs), 47% of adolescents (12-17 yrs), 39% of young adults (18-24 yrs), and 48% of adults (25+) remained on treatment. While we observed similar patterns across age groups, the persistence of each individual medication estimated from Proportion of Patients Covered from our study were lower. This may be due to the different definition of discontinuation. In our study, we used a 30-day period (90-day period in the sensitivity analysis) to define treatment episode, while Brikell et al. used 180 days. Besides, the current analysis was conducted in ingredients level, therefore we were not able to differentiate the real discontinuation versus switching to other drugs.

14.4 Generalisability

While this study was requested to better anticipate potential shortages and its impact on appropriate patient management, the available data from all included databases only covered the period before the start of the shortage (September 2023). Therefore, the results from the current study should not be generalised to the period after the shortage.

14.5 Other information

None.

15. CONCLUSION

Over the past 14 years, methylphenidate has dominated the ADHD medication use in all databases included in this study. Utilisation of ADHD medications varied across age and sex groups, and substantial changes

have occurred over time within each database. We also observed different trends and patterns between databases. Understanding the utilisation of ADHD medications can provide useful information in monitoring use, as well as important for anticipation and planning to minimise potential shortages.

16. REFERENCES

1 Shortage of ADHD1 medicines (atomoxetine, methylphenidate, lisdexamfetamine). https://www.ema.europa.eu/en/documents/shortage/adhd-medicines-atomoxetine-methylphenidate-lisdexamfetamine-supply-shortage_en.pdf (accessed 31 October 2024)

2 IQVIA longitudinal patient data - Belgium. https://catalogues.ema.europa.eu/node/951/administrative-details (accessed 5 December 2024)

3 IQVIA disease analyzer Germany. https://catalogues.ema.europa.eu/node/1021/administrative-details (accessed 5 December 2024)

4 Integrated primary care information (IPCI). https://catalogues.ema.europa.eu/data-source/42618 (accessed 5 December 2024)

5 BIFAP - Base de Datos para la Investigación Farmacoepidemiológica en el Ámbito Público (Pharmacoepidemiological Research Database for Public Health Systems). https://catalogues.ema.europa.eu/node/955/administrative-details (accessed 5 December 2024)

6 The information system for research in primary care (SIDIAP). https://catalogues.ema.europa.eu/node/1019/administrative-details (accessed 5 December 2024)

7 Clinical practice research datalink (CPRD) GOLD. https://catalogues.ema.europa.eu/node/1026/administrative-details (accessed 5 December 2024)

8 Rocco I, Corso B, Bonati M, *et al.* Time of onset and/or diagnosis of ADHD in European children: a systematic review. *BMC Psychiatry*. 2021;21:575.

9 Brikell I, Yao H, Li L, *et al.* ADHD medication discontinuation and persistence across the lifespan: a retrospective observational study using population-based databases. *Lancet Psychiatry*. 2024;11:16–26.

10 Verghese C, Abdijadid S. *Methylphenidate*. StatPearls Publishing 2023.

11 Dadashova R, Silverstone PH. Off-label use of atomoxetine in adults: is it safe? *Ment Illn*. 2012;4:96–101.

12 Raman SR, Marshall SW, Gaynes BN, *et al.* An observational study of pharmacological treatment in primary care of children with ADHD in the United Kingdom. *Psychiatr Serv*. 2015;66:617–24.

13 Khan MU, Aslani P. A review of measures used to examine medication adherence in people with ADHD at initiation, implementation and discontinuation of pharmacotherapy. *Res Social Adm Pharm*. 2020;16:277–89.

14 Li L, Zhu N, Zhang L, *et al.* ADHD pharmacotherapy and mortality in individuals with ADHD. *JAMA*. 2024;331:850.

15 Markus AF, Verhamme KMC, Kors JA, *et al.* TreatmentPatterns: An R package to facilitate the standardized development and analysis of treatment patterns across disease domains. *Comput Methods Programs Biomed*. 2022;225:107081.

16 Ibrahim K, Donyai P. Drug holidays from ADHD medication: International experience over the past four decades. *J Atten Disord*. 2015;19:551–68.

17 Faraone SV, Spencer TJ, Montano CB, *et al.* Attention-deficit/hyperactivity disorder in adults: a survey of current practice in psychiatry and primary care. *Arch Intern Med*. 2004;164:1221–6.

18 McCarthy S, Asherson P, Coghill D, *et al.* Attention-deficit hyperactivity disorder: treatment discontinuation in adolescents and young adults. *Br J Psychiatry*. 2009;194:273–7.

19 Rasmussen L, Pratt N, Hansen MR, *et al.* Using the "proportion of patients covered" and the Kaplan-Meier survival analysis to describe treatment persistence. *Pharmacoepidemiol Drug Saf*. 2018;27:867–71.

20 Beau-Lejdstrom R, Douglas I, Evans SJW, *et al.* Latest trends in ADHD drug prescribing patterns in children in the UK: prevalence, incidence and persistence. *BMJ Open*. 2016;6:e010508.

21 Renoux C, Shin J-Y, Dell'Aniello S, *et al.* Prescribing trends of attention-deficit hyperactivity disorder (ADHD) medications in UK primary care, 1995-2015. *Br J Clin Pharmacol*. 2016;82:858–68.

22 McKechnie DGJ, O'Nions E, Dunsmuir S, *et al.* Attention-deficit hyperactivity disorder diagnoses and prescriptions in UK primary care, 2000-2018: population-based cohort study. *BJPsych Open*. 2023;9:e121.

23 Raman SR, Man KKC, Bahmanyar S, *et al.* Trends in attention-deficit hyperactivity disorder medication use: a retrospective observational study using population-based databases. *Lancet Psychiatry*. 2018;5:824–35.

24 Bachmann CJ, Wijlaars LP, Kalverdijk LJ, *et al.* Trends in ADHD medication use in children and adolescents in five western countries, 2005-2012. *Eur Neuropsychopharmacol*. 2017;27:484–93.

25 Chan AYL, Ma T-T, Lau WCY, *et al.* Attention-deficit/hyperactivity disorder medication consumption in 64 countries and regions from 2015 to 2019: a longitudinal study. *EClinicalMedicine*. 2023;58:101780.

26 Grimmsmann T, Himmel W. The 10-year trend in drug prescriptions for attention-deficit/hyperactivity disorder (ADHD) in Germany. *Eur J Clin Pharmacol*. 2021;77:107–15.

27 Sørensen AMS, Wesselhöeft R, Andersen JH, *et al.* Trends in use of attention deficit hyperactivity disorder medication among children and adolescents in Scandinavia in 2010-2020. *Eur Child Adolesc Psychiatry*. 2023;32:2049–56.

28 Hartz I, Madsstuen NHH, Andersen PN, *et al.* Nationwide trends in the use of ADHD medications in the period 2006-2022: a study from the Norwegian prescription database. *BMC Psychiatry*. 2024;24:767.

29 Brikell I, Yao H, Li L, *et al.* ADHD medication discontinuation and persistence across the lifespan: a retrospective observational study using population-based databases. *Lancet Psychiatry*. 2024;11:16–26.

30 Overview | Attention deficit hyperactivity disorder: diagnosis and management | Guidance | NICE.

17. ANNEXES

Appendix I:

Study medication

Medication	Class	ATC code	RxNorm	Concept Id in OMOP	Include descendants
Methylphenidate	Stimulants	N06BA04	6901	705944	Yes
Dexamphetamine	Stimulants	N06BA02	3288	719311	Yes
Lisdexamfetamine	Stimulants	N06BA12	700810	709567	Yes
Atomoxetine	Non-stimulants	N06BA09	38400	742185	Yes
Guanfacine	Non-stimulants	C02AC02	40114	1344965	Yes

Indications

Concept Id	Code	Name	Domain	Vocabulary
ADHD				
40480225	444613000	Adult attention deficit hyperactivity disorder	Condition	SNOMED
438409	406506008	Attention deficit hyperactivity disorder	Condition	SNOMED
4149904	31177006	Attention deficit hyperactivity disorder, combined type	Condition	SNOMED
45765796	702815001	Attention deficit hyperactivity disorder, inattentive presentation (restrictive)	Condition	SNOMED
4253962	7461003	Attention deficit hyperactivity disorder, predominantly hyperactive impulsive type	Condition	SNOMED
44784525	698692009	Attention deficit hyperactivity disorder, predominantly hyperactive impulsive type in remission	Condition	SNOMED
4149353	35253001	Attention deficit hyperactivity disorder, predominantly inattentive type	Condition	SNOMED
44782517	698689005	Attention deficit hyperactivity disorder, predominantly inattentive type in remission	Condition	SNOMED
440086	192127007	Child attention deficit disorder	Condition	SNOMED
4041692	229715008	Deficits in attention motor control and perception	Condition	SNOMED
4047120	229712006	Disorders of attention and motor control	Condition	SNOMED
1340259	OMOP5165914	Exacerbation of attention deficit hyperactivity disorder	Condition	OMOP Extension
437261	192131001	Hyperkinesis with developmental delay	Condition	SNOMED
438132	192132008	Hyperkinetic conduct disorder	Condition	SNOMED
4262921	46745001	Hyperkinetic syndrome with developmental delay	Condition	SNOMED
4085043	247762003	Reduced concentration span	Condition	SNOMED
4049391	23148009	Undifferentiated attention deficit disorder	Condition	SNOMED
Narcolepsy				
437854	193042000	Cataplexy and narcolepsy	Condition	SNOMED
436100	60380001	Narcolepsy	Condition	SNOMED
1340405	OMOP5166060	Exacerbation of narcolepsy	Condition	OMOP Extension
42536721	735676003	Narcolepsy type 1	Condition	SNOMED
36716323	722293005	Autosomal dominant cerebellar ataxia, deafness and narcolepsy syndrome	Condition	SNOMED
43531721	91521000119104	Narcolepsy without cataplexy	Condition	SNOMED
762958	434241000124107	Secondary narcolepsy	Condition	SNOMED

Other off-label indications

Condition	concept id	concept name	Domain id	vocabulary id
autism	439703	Active infantile autism	Condition	SNOMED
autism	439702	Residual infantile autism	Condition	SNOMED
autism	4338037	Atypical autism	Condition	SNOMED
autism	439776	Autism spectrum disorder	Condition	SNOMED
autism	4254211	Infantile autism	Condition	SNOMED
autism	40482738	Active but odd autism	Condition	SNOMED
autism	45765723	High-functioning autism	Condition	SNOMED
autism	36716319	Autism and facial port-wine stain syndrome	Condition	SNOMED
autism	37116742	Autism spectrum disorder, epilepsy, arthrogryposis syndrome	Condition	SNOMED
autism	35624210	ADNP-related multiple congenital anomalies, intellectual disability, autism spectrum disorder	Condition	SNOMED
autism	36674903	Developmental delay with autism spectrum disorder and gait instability	Condition	SNOMED
autism	36675122	Autism epilepsy syndrome due to branched chain ketoacid dehydrogenase kinase deficiency	Condition	SNOMED
autism	36675177	Autism spectrum disorder due to AUTS2 deficiency	Condition	SNOMED
autism	37204430	Macrocephaly, intellectual disability, autism syndrome	Condition	SNOMED
autism	3655811	Pervasive developmental disorder with disorder of intellectual development without loss of previously acquired skills	Condition	SNOMED
autism	3661684	Pervasive developmental disorder with disorder of intellectual development and absence of functional language with loss of previously acquired skills	Condition	SNOMED
autism	3661689	Pervasive developmental disorder with complete impairment of functional language with loss of previously acquired skills	Condition	SNOMED
autism	439780	Autistic disorder	Condition	SNOMED

autism	3661686	Pervasive developmental disorder with disorder of intellectual development and complete impairment of functional language with loss of previously acquired skills	Condition	SNOMED
autism	3661691	Pervasive developmental disorder with cognitive developmental delay and marked impairment of functional language	Condition	SNOMED
autism	3661694	Pervasive developmental disorder with cognitive developmental delay and complete impairment of functional language	Condition	SNOMED
autism	4034867	Adenylosuccinate lyase deficiency	Condition	SNOMED
autism	434902	Autistic disorder of childhood onset	Condition	SNOMED
autism	3655812	Pervasive developmental disorder with disorder of intellectual development with loss of previously acquired skills	Condition	SNOMED
autism	3661680	Pervasive developmental disorder with disorder of intellectual development and pervasive impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661682	Pervasive developmental disorder with disorder of intellectual development and marked impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661687	Pervasive developmental disorder with severe impairment of functional language with loss of previously acquired skills	Condition	SNOMED
autism	3661681	Pervasive developmental disorder with disorder of intellectual	Condition	SNOMED

		development and marked impairment of functional language with loss of previously acquired skills		
autism	3661688	Pervasive developmental disorder with severe impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661678	Pervasive developmental disorder with marked impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661683	Pervasive developmental disorder with disorder of intellectual development and complete impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661693	Pervasive developmental disorder with absence of functional language	Condition	SNOMED
autism	4203306	Akinetic mutism	Condition	SNOMED
autism	3661679	Pervasive developmental disorder with impairment of functional language	Condition	SNOMED
autism	3661677	Pervasive developmental disorder with marked impairment of functional language with loss of previously acquired skills	Condition	SNOMED
autism	3661690	Pervasive developmental disorder with complete impairment of functional language without loss of previously acquired skills	Condition	SNOMED
autism	3661692	Pervasive developmental disorder with complete impairment of functional language	Condition	SNOMED
autism	439705	Active disintegrative psychoses	Condition	SNOMED
autism	43020503	Pervasive developmental	Condition	SNOMED

		disorder of residual state		
autism	45765499	FOXG1 syndrome	Condition	SNOMED
autism	37016769	Pathological demand avoidance	Condition	SNOMED
autism	4189466	Autistic spectrum disorder with isolated skills	Condition	SNOMED
autism	4332239	Savant syndrome	Condition	SNOMED
autism	36717734	1p21.3 microdeletion syndrome	Condition	SNOMED
autism	45769394	Residual Asperger's disorder	Condition	SNOMED
autism	37109594	Isodicentric chromosome 15 syndrome	Condition	SNOMED
autism	439704	Residual disintegrative psychoses	Condition	SNOMED
autism	4053178	Asperger's disorder	Condition	SNOMED
fatigue	1340332	Exacerbation of fatigue	Condition	OMOP Extension
fatigue	607123	Reduced level of fatigue	Condition	SNOMED
fatigue	442024	Transient heat fatigue	Condition	SNOMED
fatigue	4063119	Peripheral muscle fatigue	Condition	SNOMED
fatigue	4062571	Fatigue during pregnancy - delivered	Condition	SNOMED
fatigue	4060299	Fatigue during pregnancy - not delivered	Condition	SNOMED
fatigue	4062925	Fatigue during pregnancy with postnatal complication	Condition	SNOMED
fatigue	4347293	Severe systemic illness respiratory muscle fatigue	Condition	SNOMED
fatigue	4092860	Rapid fatigue of gait	Condition	SNOMED
fatigue	439926	Malaise and fatigue	Condition	SNOMED
fatigue	4209103	Accommodative fatigue	Condition	SNOMED
fatigue	44793521	Severe chronic fatigue syndrome	Condition	SNOMED
fatigue	44793522	Moderate chronic fatigue syndrome	Condition	SNOMED
fatigue	44793523	Mild chronic fatigue syndrome	Condition	SNOMED
fatigue	4221911	Fatigue associated with AIDS	Condition	SNOMED
fatigue	40481844	Psychogenic fatigue	Condition	SNOMED
fatigue	40484614	Postexertional fatigue	Condition	SNOMED
fatigue	4202045	Postviral fatigue syndrome	Condition	SNOMED
fatigue	432738	Chronic fatigue syndrome	Condition	SNOMED
fatigue	4247433	Combat fatigue	Condition	SNOMED
fatigue	4279937	Low frequency muscle fatigue	Condition	SNOMED
fatigue	45772721	Fatigue due to treatment	Condition	SNOMED
fatigue	37396808	Cancer-related fatigue	Condition	SNOMED
fatigue	37205051	Fatigue due to chemotherapy	Condition	SNOMED
fatigue	37205052	Fatigue due to radiation therapy	Condition	SNOMED

fatigue	4193374	Central muscle fatigue	Condition	SNOMED
fatigue	4193763	High frequency muscle fatigue	Condition	SNOMED
fatigue	4214612	Muscle fatigue	Condition	SNOMED
fatigue	4223659	Fatigue	Condition	SNOMED
fatigue	4230221	Fatigue during pregnancy	Condition	SNOMED
fatigue	36686942	Bilateral weakness of upper limbs	Condition	SNOMED
fatigue	4060217	Heavy feeling	Condition	SNOMED
fatigue	4149857	Tired all the time	Condition	SNOMED
fatigue	4090207	Senile asthenia	Condition	SNOMED
fatigue	437113	Asthenia	Condition	SNOMED
fatigue	4074624	Tired	Condition	SNOMED
fatigue	765190	Asthenia due to disease	Condition	SNOMED
fatigue	4093848	Attacks of weakness	Condition	SNOMED
fatigue	4086973	Tired on least exertion	Condition	SNOMED
fatigue	37017316	Occasionally tired	Condition	SNOMED
fatigue	44782753	Weakness as a late effect of stroke	Condition	SNOMED
fatigue	4059010	Heavy legs	Condition	SNOMED
fatigue	4161600	Sensation of heaviness in limbs	Condition	SNOMED
eating disorder	42689695	Eating disorder co-occurrent with diabetes mellitus type 1	Condition	SNOMED
eating disorder	4253315	Nocturnal sleep-related eating disorder	Condition	SNOMED
eating disorder	4144892	Eating disorder in remission	Condition	SNOMED
eating disorder	439002	Eating disorder	Condition	SNOMED
eating disorder	609050	Bulimia nervosa in full remission	Condition	SNOMED
eating disorder	609049	Bulimia nervosa in partial remission	Condition	SNOMED
eating disorder	44784528	Anorexia nervosa in remission	Condition	SNOMED
eating disorder	44784532	Bulimia nervosa in remission	Condition	SNOMED
eating disorder	4262968	Rumination disorder of infancy	Condition	SNOMED
eating disorder	4085361	Self-induced purging to lose weight	Condition	SNOMED
eating disorder	4103560	Non-organic infant feeding disturbance	Condition	SNOMED
eating disorder	4152972	Overeating associated with other psychological disturbances	Condition	SNOMED
eating disorder	4269485	Anorexia nervosa, binge-eating purging type	Condition	SNOMED
eating disorder	37109945	Dangerously low body weight co-occurrent and due to anorexia nervosa of restricting type	Observation	SNOMED
eating disorder	45767550	Self-induced vomiting to lose weight	Condition	SNOMED
eating disorder	37109946	Dangerously low body weight co-occurrent and due to anorexia	Observation	SNOMED

		nervosa of binge-eating purging type		
eating disorder	4245170	Bulimia nervosa, nonpurging type	Condition	SNOMED
eating disorder	436675	Anorexia nervosa	Condition	SNOMED
eating disorder	45763720	Avoidant restrictive food intake disorder	Condition	SNOMED
eating disorder	3655965	Orthorexia nervosa	Condition	SNOMED
eating disorder	36716719	Adult rumination syndrome of ingested food	Condition	SNOMED
eating disorder	4333684	Atypical bulimia nervosa	Condition	SNOMED
eating disorder	4143677	Developmental delay in feeding	Condition	SNOMED
eating disorder	36717597	Anorexia nervosa co-occurrent with significantly low body weight	Observation	SNOMED
eating disorder	4208913	Binge eating disorder	Observation	SNOMED
eating disorder	4242221	Rumination disorder	Condition	SNOMED
eating disorder	4139256	Bulimia nervosa, purging type	Condition	SNOMED
eating disorder	437839	Pica	Condition	SNOMED
eating disorder	37109947	Significantly low body weight co-occurrent and due to anorexia nervosa of restricting type	Observation	SNOMED
eating disorder	4250314	Feeding disorder of infancy OR early childhood	Condition	SNOMED
eating disorder	4173812	Psychogenic overeating	Condition	SNOMED
eating disorder	4333682	Weight fixation	Condition	SNOMED
eating disorder	4333683	Atypical anorexia nervosa	Condition	SNOMED
eating disorder	36716779	Anorexia nervosa co-occurrent with dangerously low body weight	Observation	SNOMED
eating disorder	4300305	Anorexia nervosa, restricting type	Condition	SNOMED
eating disorder	4091520	Self-induced purging	Condition	SNOMED
eating disorder	4102962	Non-organic loss of appetite	Condition	SNOMED
eating disorder	4100683	Pica of infancy and childhood	Condition	SNOMED
eating disorder	438407	Bulimia nervosa	Condition	SNOMED
eating disorder	46285098	Acquired delay in feeding	Condition	SNOMED
eating disorder	37118987	Significantly low body weight co-occurrent and due to anorexia nervosa of binge-eating purging type	Observation	SNOMED
eating disorder	35609103	Emergency hospital admission to eating disorders service	Observation	SNOMED
eating disorder	4208913	Binge eating disorder	Observation	SNOMED
eating disorder	44808062	Eating disorders service	Observation	SNOMED
cognitive dysfunction	3188590	Cognitive dysfunction with epilepsy	Condition	Nebraska Lexicon

cognitive dysfunction	3174547	Cognitive dysfunction accompanying multiple sclerosis	Condition	Nebraska Lexicon
cognitive dysfunction	36675110	Postoperative cognitive dysfunction	Condition	SNOMED
cognitive dysfunction	44782725	Cognitive changes due to organic disorder	Condition	SNOMED
cognitive dysfunction	4047110	Language-related cognitive disorder	Condition	SNOMED
cognitive dysfunction	4297400	Mild cognitive disorder	Condition	SNOMED
cognitive dysfunction	40480615	Cognitive disorder	Condition	SNOMED
cognitive dysfunction	44784524	Cognitive disorder in remission	Condition	SNOMED
cognitive dysfunction	46271045	Neurocognitive disorder	Condition	SNOMED
cognitive dysfunction	37396726	Cognitive communication disorder	Condition	SNOMED
cognitive dysfunction	37110498	Cognitive impairment co-occurrent and due to primary psychotic disorder	Condition	SNOMED
cognitive dysfunction	42537139	Dissociative neurological symptom disorder co-occurrent with cognitive symptoms	Condition	SNOMED
cognitive dysfunction	3654469	Amnestic mild cognitive disorder	Condition	SNOMED
cognitive dysfunction	3661691	Pervasive developmental disorder with cognitive developmental delay and marked impairment of functional language	Condition	SNOMED
cognitive dysfunction	3661694	Pervasive developmental disorder with cognitive developmental delay and complete impairment of functional language	Condition	SNOMED
cognitive dysfunction	443432	Impaired cognition	Condition	SNOMED
cognitive dysfunction	42535706	Cognitive deficit due to and following embolic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	36687122	Human immunodeficiency virus infection with cognitive impairment	Condition	SNOMED
cognitive dysfunction	42539270	Cognitive deficit due to and following nontraumatic subarachnoid hemorrhage	Condition	SNOMED
cognitive dysfunction	3654907	Cognitive impairment caused by ingestible alcohol	Condition	SNOMED
cognitive dysfunction	4137543	Cognitive developmental delay	Condition	SNOMED
cognitive dysfunction	42539271	Cognitive deficit due to and following	Condition	SNOMED

		nontraumatic intracerebral hemorrhage		
cognitive dysfunction	43020439	Borderline cognitive developmental delay	Condition	SNOMED
cognitive dysfunction	4003688	Indication for modification of patient cognitive status	Condition	SNOMED
cognitive dysfunction	35607999	Cognitive impairment, coarse facies, heart defects, obesity, pulmonary involvement, short stature, skeletal dysplasia syndrome	Condition	SNOMED
cognitive dysfunction	42539256	Cognitive deficit due to and following cerebrovascular disease	Condition	SNOMED
cognitive dysfunction	36676518	Infantile-onset mesial temporal lobe epilepsy with severe cognitive regression	Condition	SNOMED
cognitive dysfunction	40482301	Residual cognitive deficit as late effect of cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	42535681	Cognitive deficit due to and following ischemic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	35622315	Hypotonia, speech impairment, severe cognitive delay syndrome	Condition	SNOMED
cognitive dysfunction	42535682	Cognitive deficit due to and following hemorrhagic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	3655811	Pervasive developmental disorder with disorder of intellectual development without loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3661684	Pervasive developmental disorder with disorder of intellectual development and absence of functional language with loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3661686	Pervasive developmental disorder with disorder of intellectual development and complete impairment of functional language with loss of previously acquired skills	Condition	SNOMED

cognitive dysfunction	3661680	Pervasive developmental disorder with disorder of intellectual development and pervasive impairment of functional language without loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3661682	Pervasive developmental disorder with disorder of intellectual development and marked impairment of functional language without loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3655812	Pervasive developmental disorder with disorder of intellectual development with loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3661681	Pervasive developmental disorder with disorder of intellectual development and marked impairment of functional language with loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	3661683	Pervasive developmental disorder with disorder of intellectual development and complete impairment of functional language without loss of previously acquired skills	Condition	SNOMED
cognitive dysfunction	4162498	Organic amnesia of language	Condition	SNOMED
cognitive dysfunction	4229448	Anterograde amnesia	Condition	SNOMED
cognitive dysfunction	4145069	Transient memory loss	Condition	SNOMED
cognitive dysfunction	439795	Minimal cognitive impairment	Condition	SNOMED
cognitive dysfunction	37309660	Memory deficit due to and following hemorrhagic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	42538566	Cognitive impairment due to toxicity of substance	Condition	SNOMED
cognitive dysfunction	4036509	Impaired environmental interpretation syndrome	Condition	SNOMED
cognitive dysfunction	439147	Amnesia	Condition	SNOMED

cognitive dysfunction	437306	Transient global amnesia	Condition	SNOMED
cognitive dysfunction	44784521	Post-traumatic dementia with behavioral change	Condition	SNOMED
cognitive dysfunction	37309661	Memory deficit due to and following ischemic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	4076654	Memory lapses	Condition	SNOMED
cognitive dysfunction	1340245	Exacerbation of amnesia	Condition	OMOP Extension
cognitive dysfunction	37309663	Memory deficit due to and following cerebrovascular disease	Condition	SNOMED
cognitive dysfunction	4264146	Amnesia for remote events	Condition	SNOMED
cognitive dysfunction	4166262	Disturbance of memory for order of events	Condition	SNOMED
cognitive dysfunction	4206332	Forgetful	Condition	SNOMED
cognitive dysfunction	4304008	Memory impairment	Condition	SNOMED
cognitive dysfunction	45765900	Severe cognitive impairment	Condition	SNOMED
cognitive dysfunction	4022572	Disturbance of cognitive learning	Condition	SNOMED
cognitive dysfunction	4076655	Mixes past with present	Condition	SNOMED
cognitive dysfunction	4152488	Impairment of registration	Condition	SNOMED
cognitive dysfunction	4099961	Mild memory disturbance	Condition	SNOMED
cognitive dysfunction	609091	Memory deficit due to and following spontaneous subarachnoid hemorrhage	Condition	SNOMED
cognitive dysfunction	609090	Memory deficit due to and following spontaneous intracerebral hemorrhage	Condition	SNOMED
cognitive dysfunction	4005009	Lack of thinking ability	Condition	SNOMED
cognitive dysfunction	4083456	Amnesia for important personal information	Condition	SNOMED
cognitive dysfunction	37309662	Memory deficit due to and following cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	4009705	Age-related cognitive decline	Condition	SNOMED
cognitive dysfunction	44782727	Depressed mood in Alzheimer's disease	Condition	SNOMED
cognitive dysfunction	4012209	Temporary loss of memory	Condition	SNOMED
cognitive dysfunction	45765899	Moderate cognitive impairment	Condition	SNOMED
cognitive dysfunction	37016192	Cognitive deficit in attention	Condition	SNOMED
cognitive dysfunction	4296610	Information conversion problem	Condition	SNOMED
cognitive dysfunction	3179559	Cognitive deficit complicating stroke	Condition	Nebraska Lexicon

cognitive dysfunction	609092	Memory deficit due to and following embolic cerebrovascular accident	Condition	SNOMED
cognitive dysfunction	4074319	Minor memory lapses	Condition	SNOMED
cognitive dysfunction	44784643	Altered behavior in Alzheimer's disease	Condition	SNOMED
cognitive dysfunction	4138824	Paramnesia	Condition	SNOMED
cognitive dysfunction	4132117	Retrospective falsification	Condition	SNOMED
cognitive dysfunction	42537141	Impaired executive functioning	Condition	SNOMED
cognitive dysfunction	4193675	Transient epileptic amnesia	Condition	SNOMED
cognitive dysfunction	4092086	Amnesia for day to day facts	Condition	SNOMED
cognitive dysfunction	4173661	Post-traumatic amnesia	Condition	SNOMED
cognitive dysfunction	4198081	Retrograde amnesia	Condition	SNOMED
cognitive dysfunction	4171718	Amnesia for recent events	Condition	SNOMED
cognitive dysfunction	44782432	Early onset Alzheimer's disease with behavioral disturbance	Condition	SNOMED
addiction	4338024	Absinthe addiction	Condition	SNOMED
addiction	4139144	Addiction	Condition	SNOMED
addiction	4215081	Physical addiction	Condition	SNOMED
addiction	4312088	Psychological addiction	Condition	SNOMED
addiction	4102814	Glue sniffing dependence	Condition	SNOMED
addiction	4333676	Heroin dependence	Condition	SNOMED
addiction	4275756	Dependent drug abuse	Condition	SNOMED
addiction	4102815	Glue sniffing dependence, continuous	Condition	SNOMED
addiction	4103410	Glue sniffing dependence in remission	Condition	SNOMED
addiction	4100517	Glue sniffing dependence, episodic	Condition	SNOMED
behavioural disorder	441547	Oppositional defiant disorder	Condition	SNOMED
behavioural disorder	37110475	Oppositional defiant disorder co-occurrent with chronic irritability-anger	Condition	SNOMED
behavioural disorder	37110476	Oppositional defiant disorder co-occurrent with chronic irritability-anger with normal prosocial emotions	Condition	SNOMED
behavioural disorder	37110477	Oppositional defiant disorder without chronic irritability-anger	Condition	SNOMED
behavioural disorder	37110478	Oppositional defiant disorder without chronic irritability-anger with limited prosocial emotions	Condition	SNOMED
behavioural disorder	37110479	Oppositional defiant disorder without chronic irritability-	Condition	SNOMED

		anger with normal prosocial emotions		
behavioural disorder	437843	Conduct disorder, childhood-onset type	Condition	SNOMED
behavioural disorder	433451	Aggressive unsocial conduct disorder	Condition	SNOMED
behavioural disorder	4105183	Childhood disorder of conduct and emotion	Condition	SNOMED
behavioural disorder	438132	Hyperkinetic conduct disorder	Condition	SNOMED
behavioural disorder	4338038	Conduct disorder - in family context	Condition	SNOMED
behavioural disorder	4335176	Conduct disorder - unsocialized	Condition	SNOMED
behavioural disorder	4333687	Depressive conduct disorder	Condition	SNOMED
behavioural disorder	440697	Nonaggressive unsocial conduct disorder	Condition	SNOMED
behavioural disorder	443617	Conduct disorder	Condition	SNOMED
behavioural disorder	439800	Conduct disorder, adolescent-onset type	Condition	SNOMED
behavioural disorder	4268025	Conduct disorder, undifferentiated type	Condition	SNOMED
behavioural disorder	4279455	Conduct disorder, group type	Condition	SNOMED
behavioural disorder	436076	Adjustment disorder with mixed disturbance of emotions AND conduct	Condition	SNOMED
behavioural disorder	44784531	Adjustment disorder with mixed disturbance of emotions and conduct in remission	Condition	SNOMED
behavioural disorder	44782933	Conduct disorder in remission	Condition	SNOMED
behavioural disorder	37110480	Childhood onset conduct-dissocial disorder with limited prosocial emotions	Condition	SNOMED
behavioural disorder	37110481	Childhood onset conduct-dissocial disorder with normal prosocial emotions	Condition	SNOMED
behavioural disorder	37110482	Adolescent onset conduct-dissocial disorder	Condition	SNOMED
behavioural disorder	37110483	Adolescent onset conduct-dissocial disorder with limited prosocial emotions	Condition	SNOMED
behavioural disorder	37110484	Adolescent onset conduct-dissocial disorder with normal prosocial emotions	Condition	SNOMED
behavioural disorder	4254395	Conduct disorder, solitary aggressive type	Condition	SNOMED
behavioural disorder	42538606	Childhood onset conduct-dissocial disorder	Condition	SNOMED
behavioural disorder	435799	Adjustment disorder with disturbance of conduct	Condition	SNOMED
behavioural disorder	440989	Intermittent explosive disorder	Condition	SNOMED

behavioural disorder	37396201	Disruptive mood dysregulation disorder	Condition	SNOMED
behavioural disorder	432877	Socialized behaviour disorder	Condition	SNOMED
behavioural disorder	4100089	Sibling jealousy	Condition	SNOMED
behavioural disorder	4099964	Group delinquency	Condition	SNOMED
behavioural disorder	4146721	Unsocial childhood truancy	Condition	SNOMED
behavioural disorder	4099966	Neurotic delinquency	Condition	SNOMED
behavioural disorder	4103571	Adjustment reaction with antisocial behaviour	Condition	SNOMED
behavioural disorder	4103570	Adjustment reaction with aggression	Condition	SNOMED
behavioural disorder	4102970	Adjustment reaction with destructiveness	Condition	SNOMED
major depressive disorder	432285	Recurrent major depressive episodes	Condition	SNOMED
major depressive disorder	432883	Recurrent major depressive episodes, moderate	Condition	SNOMED
major depressive disorder	433991	Recurrent major depression in remission	Condition	SNOMED
major depressive disorder	434911	Recurrent major depressive episodes, severe, with psychosis	Condition	SNOMED
major depressive disorder	435220	Severe recurrent major depression without psychotic features	Condition	SNOMED
major depressive disorder	438406	Severe major depression, single episode, with psychotic features	Condition	SNOMED
major depressive disorder	438998	Recurrent major depressive episodes, mild	Condition	SNOMED
major depressive disorder	439259	Single major depressive episode, severe, with psychosis	Condition	SNOMED
major depressive disorder	441534	Severe major depression, single episode, without psychotic features	Condition	SNOMED
major depressive disorder	4031328	Chronic major depressive disorder, single episode	Condition	SNOMED
major depressive disorder	4034842	Severe recurrent major depression with psychotic features, mood-incongruent	Condition	SNOMED
major depressive disorder	4049623	Moderate major depression, single episode	Condition	SNOMED
major depressive disorder	4067409	Severe major depression, single episode, with psychotic features, mood-incongruent	Condition	SNOMED
major depressive disorder	4077577	Moderate recurrent major depression	Condition	SNOMED
major depressive disorder	4093584	Major depressive disorder, single episode with postpartum onset	Condition	SNOMED

major depressive disorder	4094358	Chronic recurrent major depressive disorder	Condition	SNOMED
major depressive disorder	4141292	Severe recurrent major depression with psychotic features, mood-congruent	Condition	SNOMED
major depressive disorder	4141454	Recurrent major depression in partial remission	Condition	SNOMED
major depressive disorder	4144233	Severe major depression with psychotic features, mood-congruent	Condition	SNOMED
major depressive disorder	4148630	Major depression in partial remission	Condition	SNOMED
major depressive disorder	4154309	Severe recurrent major depression with psychotic features	Condition	SNOMED
major depressive disorder	4154391	Major depression, melancholic type	Condition	SNOMED
major depressive disorder	4176002	Major depression in remission	Condition	SNOMED
major depressive disorder	4181807	Major depressive disorder, single episode with atypical features	Condition	SNOMED
major depressive disorder	4195572	Mild major depression, single episode	Condition	SNOMED
major depressive disorder	4205471	Recurrent major depressive disorder with melancholic features	Condition	SNOMED
major depressive disorder	4220023	Recurrent major depressive disorder with catatonic features	Condition	SNOMED
major depressive disorder	4228802	Mild recurrent major depression	Condition	SNOMED
major depressive disorder	4243822	Severe major depression with psychotic features, mood-incongruent	Condition	SNOMED
major depressive disorder	4250023	Severe major depression with psychotic features	Condition	SNOMED
major depressive disorder	4270907	Major depressive disorder, single episode with melancholic features	Condition	SNOMED
major depressive disorder	4282096	Major depression, single episode	Condition	SNOMED
major depressive disorder	4282316	Recurrent major depression	Condition	SNOMED
major depressive disorder	4287238	Major depressive disorder, single episode with catatonic features	Condition	SNOMED
major depressive disorder	4299785	Severe major depression, single episode, with psychotic features, mood-congruent	Condition	SNOMED
major depressive disorder	4304140	Recurrent major depressive disorder with atypical features	Condition	SNOMED

major depressive disorder	4307111	Moderate major depression	Condition	SNOMED
major depressive disorder	4323418	Major depression single episode, in partial remission	Condition	SNOMED
major depressive disorder	4324959	Recurrent major depressive disorder with postpartum onset	Condition	SNOMED
major depressive disorder	4327337	Severe major depression without psychotic features	Condition	SNOMED
major depressive disorder	4336957	Mild major depression	Condition	SNOMED
major depressive disorder	35615151	Recurrent mild major depressive disorder co-occurrent with anxiety	Condition	SNOMED
major depressive disorder	35615152	Recurrent severe major depressive disorder co-occurrent with anxiety	Condition	SNOMED
major depressive disorder	35615153	Recurrent moderate major depressive disorder co-occurrent with anxiety	Condition	SNOMED
major depressive disorder	35615155	Recurrent major depressive disorder in partial remission co-occurrent with anxiety	Condition	SNOMED
major depressive disorder	36714389	Moderately severe major depression	Condition	SNOMED
major depressive disorder	36714997	Minimal recurrent major depression	Condition	SNOMED
major depressive disorder	36714998	Moderately severe recurrent major depression	Condition	SNOMED
major depressive disorder	36714999	Minimal major depression single episode	Condition	SNOMED
major depressive disorder	36715000	Minimal major depression	Condition	SNOMED
major depressive disorder	36717389	Moderately severe major depression single episode	Condition	SNOMED
major depressive disorder	37109052	Mild major depressive disorder co-occurrent with anxiety single episode	Condition	SNOMED
major depressive disorder	37109053	Moderate major depressive disorder co-occurrent with anxiety single episode	Condition	SNOMED
major depressive disorder	37109054	Severe major depressive disorder co-occurrent with anxiety single episode	Condition	SNOMED
major depressive disorder	37111697	Major depression with psychotic features	Condition	SNOMED
major depressive disorder	42534817	Postpartum major depression in remission	Condition	SNOMED
major depressive disorder	42872411	Severe major depression, single episode	Condition	SNOMED
major depressive disorder	42872722	Severe major depression	Condition	SNOMED

major depressive disorder	43531624	Severe recurrent major depression	Condition	SNOMED
major depressive disorder	44805542	Recurrent major depressive episodes, severe	Condition	SNOMED
major depressive disorder	44805549	Recurrent major depressive episodes, in partial remission	Condition	SNOMED
major depressive disorder	44805550	Single major depressive episode, in remission	Condition	SNOMED
major depressive disorder	44805668	Single major depressive episode, severe, with psychosis, psychosis in remission	Condition	SNOMED
major depressive disorder	44805669	Recurrent major depressive episodes, severe, with psychosis, psychosis in remission	Condition	SNOMED
major depressive disorder	44813499	Recurrent major depressive episodes, in remission	Condition	SNOMED
mood disorders	372599	Severe mixed bipolar I disorder without psychotic features	Condition	SNOMED
mood disorders	373176	Organic mood disorder	Condition	SNOMED
mood disorders	432290	Mild bipolar I disorder, single manic episode	Condition	SNOMED
mood disorders	432866	Bipolar I disorder, single manic episode	Condition	SNOMED
mood disorders	432876	Bipolar I disorder	Condition	SNOMED
mood disorders	433440	Dysthymia	Condition	SNOMED
mood disorders	433743	Mixed bipolar I disorder in remission	Condition	SNOMED
mood disorders	433751	Prolonged depressive adjustment reaction	Condition	SNOMED
mood disorders	433992	Bipolar affective disorder, currently manic, moderate	Condition	SNOMED
mood disorders	435225	Depressed bipolar I disorder in full remission	Condition	SNOMED
mood disorders	435226	Bipolar affective disorder, current episode mixed	Condition	SNOMED
mood disorders	435520	Reactive depressive psychosis	Condition	SNOMED
mood disorders	436072	Bipolar disorder in partial remission	Condition	SNOMED
mood disorders	436075	Adjustment disorder with anxious mood	Condition	SNOMED
mood disorders	436079	Mood disorder caused by drug	Condition	SNOMED
mood disorders	436086	Manic bipolar I disorder in full remission	Condition	SNOMED
mood disorders	436386	Severe depressed bipolar I disorder with psychotic features	Condition	SNOMED
mood disorders	436665	Bipolar disorder	Condition	SNOMED
mood disorders	437249	Recurrent manic episodes	Condition	SNOMED
mood disorders	437250	Mild depressed bipolar I disorder	Condition	SNOMED

mood disorders	437522	Severe mood disorder without psychotic features	Condition	SNOMED
mood disorders	437528	Bipolar affective disorder, currently depressed, moderate	Condition	SNOMED
mood disorders	437529	Mixed bipolar I disorder in partial remission	Condition	SNOMED
mood disorders	437532	Recurrent manic episodes, severe, with psychosis	Condition	SNOMED
mood disorders	437831	Recurrent manic episodes, in full remission	Condition	SNOMED
mood disorders	438119	Recurrent manic episodes, mild	Condition	SNOMED
mood disorders	438129	Severe manic bipolar I disorder with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	438405	Recurrent manic episodes, moderate	Condition	SNOMED
mood disorders	438727	Atypical depressive disorder	Condition	SNOMED
mood disorders	439001	Severe mixed bipolar I disorder with psychotic features	Condition	SNOMED
mood disorders	439245	Mixed bipolar affective disorder, in full remission	Condition	SNOMED
mood disorders	439246	Mixed bipolar affective disorder, severe, with psychosis	Condition	SNOMED
mood disorders	439248	Mixed bipolar affective disorder, moderate	Condition	SNOMED
mood disorders	439249	Mixed bipolar affective disorder, mild	Condition	SNOMED
mood disorders	439250	Mixed bipolar affective disorder	Condition	SNOMED
mood disorders	439251	Bipolar affective disorder, currently depressed, in full remission	Condition	SNOMED
mood disorders	439253	Bipolar affective disorder, currently depressed, mild	Condition	SNOMED
mood disorders	439254	Bipolar affective disorder, current episode depression	Condition	SNOMED
mood disorders	439255	Bipolar affective disorder, currently manic, in full remission	Condition	SNOMED
mood disorders	439256	Bipolar affective disorder, currently manic, severe, with psychosis	Condition	SNOMED
mood disorders	439261	Single manic episode in full remission	Condition	SNOMED
mood disorders	439262	Single manic episode, severe, with psychosis	Condition	SNOMED
mood disorders	439272	Single manic episode, moderate	Condition	SNOMED

mood disorders	439273	Single manic episode, mild	Condition	SNOMED
mood disorders	439785	Moderate mixed bipolar I disorder	Condition	SNOMED
mood disorders	440067	Moderate bipolar I disorder, single manic episode	Condition	SNOMED
mood disorders	440078	Bipolar affective disorder, current episode manic	Condition	SNOMED
mood disorders	440079	Mild mixed bipolar I disorder	Condition	SNOMED
mood disorders	440383	Depressive disorder	Condition	SNOMED
mood disorders	440696	Cyclothymia	Condition	SNOMED
mood disorders	440698	Brief depressive adjustment reaction	Condition	SNOMED
mood disorders	440980	Atypical manic disorder	Condition	SNOMED
mood disorders	441834	Bipolar affective disorder, currently manic, mild	Condition	SNOMED
mood disorders	441836	Depressed bipolar I disorder	Condition	SNOMED
mood disorders	442306	Adjustment disorder with depressed mood	Condition	SNOMED
mood disorders	442570	Severe depressed bipolar I disorder without psychotic features	Condition	SNOMED
mood disorders	442600	Manic bipolar I disorder in partial remission	Condition	SNOMED
mood disorders	443237	Manic disorder, single episode	Condition	SNOMED
mood disorders	443797	Severe manic bipolar I disorder without psychotic features	Condition	SNOMED
mood disorders	443864	Multi-infarct dementia with depression	Condition	SNOMED
mood disorders	443906	Mixed bipolar I disorder	Condition	SNOMED
mood disorders	444038	Psychoactive substance-induced organic mood disorder	Condition	SNOMED
mood disorders	444100	Mood disorder	Condition	SNOMED
mood disorders	607540	Treatment resistant depression	Condition	SNOMED
mood disorders	607543	Persistent depressive disorder	Condition	SNOMED
mood disorders	761111	Recurrent manic episodes in partial remission	Condition	SNOMED
mood disorders	761947	Recurrent severe manic episodes	Condition	SNOMED
mood disorders	762060	Chronic mood disorder	Condition	SNOMED
mood disorders	1340265	Exacerbation of bipolar disorder	Condition	OMOP Extension
mood disorders	1340305	Exacerbation of depressive disorder	Condition	OMOP Extension
mood disorders	1340392	Exacerbation of major depressive disorder	Condition	OMOP Extension
mood disorders	1340393	Exacerbation of mania	Condition	OMOP Extension
mood disorders	3172581	Bipolar disease in pregnancy	Condition	Nebraska Lexicon

mood disorders	3190612	Substance induced mood disorder	Condition	Nebraska Lexicon
mood disorders	3654786	Mood disorder with manic symptoms caused by amphetamine and amphetamine derivative	Condition	SNOMED
mood disorders	3654787	Mood disorder with mixed depressive and manic symptoms caused by amphetamine and amphetamine derivative	Condition	SNOMED
mood disorders	3654788	Mood disorder with depressive symptoms caused by amphetamine and amphetamine derivative	Condition	SNOMED
mood disorders	4000165	Severe bipolar II disorder, most recent episode major depressive with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4001733	Chronic bipolar II disorder, most recent episode major depressive	Condition	SNOMED
mood disorders	4009648	Mixed bipolar I disorder in full remission	Condition	SNOMED
mood disorders	4012869	Cocaine-induced mood disorder	Condition	SNOMED
mood disorders	4025677	Single episode of major depression in full remission	Condition	SNOMED
mood disorders	4028027	Mild bipolar disorder	Condition	SNOMED
mood disorders	4029464	Hallucinogen mood disorder	Condition	SNOMED
mood disorders	4030102	Severe bipolar I disorder, single manic episode with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4030856	Severe bipolar I disorder, single manic episode without psychotic features	Condition	SNOMED
mood disorders	4031928	Severe mixed bipolar I disorder with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4033390	Bipolar I disorder, single manic episode with postpartum onset	Condition	SNOMED
mood disorders	4037669	Bipolar II disorder, most recent episode major depressive	Condition	SNOMED
mood disorders	4045263	Severe bipolar II disorder, most recent episode major	Condition	SNOMED

		depressive, in full remission		
mood disorders	4051448	Severe bipolar II disorder, most recent episode major depressive with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4057218	Late onset dysthymia	Condition	SNOMED
mood disorders	4071442	Bipolar I disorder, most recent episode depressed with catatonic features	Condition	SNOMED
mood disorders	4073401	Bipolar I disorder, most recent episode manic with catatonic features	Condition	SNOMED
mood disorders	4092239	Seasonal affective disorder	Condition	SNOMED
mood disorders	4094507	Severe depressed bipolar I disorder with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4096229	Early onset dysthymia	Condition	SNOMED
mood disorders	4098302	Recurrent depression	Condition	SNOMED
mood disorders	4102603	Severe manic bipolar I disorder with psychotic features	Condition	SNOMED
mood disorders	4102936	Mood disorder with manic features due to general medical condition	Condition	SNOMED
mood disorders	4102973	Postviral depression	Condition	SNOMED
mood disorders	4103126	Drug-induced depressive state	Condition	SNOMED
mood disorders	4103574	Chronic depression	Condition	SNOMED
mood disorders	4103853	Sedative, hypnotic AND/OR anxiolytic-induced mood disorder	Condition	SNOMED
mood disorders	4105930	Opioid-induced mood disorder	Condition	SNOMED
mood disorders	4107538	Bipolar I disorder, most recent episode depressed with atypical features	Condition	SNOMED
mood disorders	4114950	Endogenous depression	Condition	SNOMED
mood disorders	4129184	Severe postnatal depression	Condition	SNOMED
mood disorders	4129842	Mild postnatal depression	Condition	SNOMED
mood disorders	4131027	Severe bipolar disorder with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4132144	Severe mood disorder with psychotic features	Condition	SNOMED
mood disorders	4133073	Maternity blues	Condition	SNOMED
mood disorders	4141603	Severe manic bipolar I disorder with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4144519	Bipolar II disorder, most recent episode	Condition	SNOMED

		major depressive with melancholic features		
mood disorders	4145216	Premenstrual dysphoric disorder in remission	Condition	SNOMED
mood disorders	4147991	Severe bipolar II disorder, most recent episode major depressive with psychotic features	Condition	SNOMED
mood disorders	4148842	Bipolar I disorder, single manic episode, in full remission	Condition	SNOMED
mood disorders	4148934	Bipolar II disorder, most recent episode major depressive with postpartum onset	Condition	SNOMED
mood disorders	4149320	Mild depression	Condition	SNOMED
mood disorders	4149321	Severe depression	Condition	SNOMED
mood disorders	4150047	Secondary dysthymia early onset	Condition	SNOMED
mood disorders	4150985	Bipolar I disorder, most recent episode hypomanic	Condition	SNOMED
mood disorders	4151170	Moderate depression	Condition	SNOMED
mood disorders	4152280	Major depressive disorder	Condition	SNOMED
mood disorders	4154283	Severe bipolar I disorder	Condition	SNOMED
mood disorders	4154805	Involutional depression	Condition	SNOMED
mood disorders	4155208	Transitory postpartum mood disturbance	Condition	SNOMED
mood disorders	4155798	Severe bipolar disorder	Condition	SNOMED
mood disorders	4161200	Severe bipolar II disorder	Condition	SNOMED
mood disorders	4166701	Manic bipolar I disorder in remission	Condition	SNOMED
mood disorders	4168298	PCP mood disorder	Condition	SNOMED
mood disorders	4168858	Endogenous depression - recurrent	Condition	SNOMED
mood disorders	4172156	Bipolar II disorder, most recent episode hypomanic	Condition	SNOMED
mood disorders	4174987	Minor depressive disorder	Condition	SNOMED
mood disorders	4175329	Organic mood disorder of depressed type	Condition	SNOMED
mood disorders	4177651	Depressed bipolar I disorder in partial remission	Condition	SNOMED
mood disorders	4182998	Severe depressed bipolar I disorder with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4184321	Amphetamine-induced mood disorder	Condition	SNOMED
mood disorders	4185096	Bipolar II disorder, most recent episode major depressive with atypical features	Condition	SNOMED
mood disorders	4192865	Bipolar I disorder, most recent episode depressed with melancholic features	Condition	SNOMED

mood disorders	4194222	Moderate bipolar disorder	Condition	SNOMED
mood disorders	4195158	Severe bipolar disorder with psychotic features	Condition	SNOMED
mood disorders	4195680	Primary dysthymia late onset	Condition	SNOMED
mood disorders	4197222	Stuporous depression	Condition	SNOMED
mood disorders	4197669	Chronic bipolar I disorder, most recent episode depressed	Condition	SNOMED
mood disorders	4200385	Severe bipolar disorder without psychotic features	Condition	SNOMED
mood disorders	4201739	Depressed bipolar I disorder in remission	Condition	SNOMED
mood disorders	4205002	Alcohol-induced mood disorder	Condition	SNOMED
mood disorders	4210024	Bipolar I disorder, most recent episode manic with postpartum onset	Condition	SNOMED
mood disorders	4215917	Mild manic bipolar I disorder	Condition	SNOMED
mood disorders	4217940	Severe bipolar II disorder, most recent episode major depressive without psychotic features	Condition	SNOMED
mood disorders	4218985	Amok	Condition	SNOMED
mood disorders	4220617	Severe bipolar I disorder, single manic episode with psychotic features	Condition	SNOMED
mood disorders	4220618	Bipolar disorder in full remission	Condition	SNOMED
mood disorders	4223090	Menopausal depression	Condition	SNOMED
mood disorders	4224639	Secondary dysthymia	Condition	SNOMED
mood disorders	4224940	Schizoaffective disorder, depressive type	Condition	SNOMED
mood disorders	4226155	Recurrent brief depressive disorder	Condition	SNOMED
mood disorders	4232492	Inhalant-induced mood disorder	Condition	SNOMED
mood disorders	4237734	Organic mood disorder of manic type	Condition	SNOMED
mood disorders	4239453	Severe mood disorder with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4239471	Postpartum depression	Condition	SNOMED
mood disorders	4241158	Moderate mood disorder	Condition	SNOMED
mood disorders	4242733	Premenstrual dysphoric disorder	Condition	SNOMED
mood disorders	4243308	Primary dysthymia early onset	Condition	SNOMED
mood disorders	4244078	Schizoaffective disorder, bipolar type	Condition	SNOMED
mood disorders	4244690	Mood disorder in full remission	Condition	SNOMED
mood disorders	4251178	Bipolar I disorder, most recent episode mixed with catatonic features	Condition	SNOMED

mood disorders	4253782	Mood disorder in partial remission	Condition	SNOMED
mood disorders	4262111	Moderate bipolar II disorder, most recent episode major depressive	Condition	SNOMED
mood disorders	4262272	Severe bipolar II disorder, most recent episode major depressive, in remission	Condition	SNOMED
mood disorders	4263748	Recurrent major depression in full remission	Condition	SNOMED
mood disorders	4263770	Secondary dysthymia late onset	Condition	SNOMED
mood disorders	4269143	Mild mood disorder	Condition	SNOMED
mood disorders	4269493	Major depression in full remission	Condition	SNOMED
mood disorders	4274957	Bipolar I disorder, most recent episode mixed with postpartum onset	Condition	SNOMED
mood disorders	4276670	Severe mixed bipolar I disorder with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4280361	Moderate depressed bipolar I disorder	Condition	SNOMED
mood disorders	4283219	Severe bipolar II disorder, most recent episode major depressive, in partial remission	Condition	SNOMED
mood disorders	4287544	Manic bipolar I disorder	Condition	SNOMED
mood disorders	4289751	Severe mood disorder with psychotic features, mood-incongruent	Condition	SNOMED
mood disorders	4295956	Mood disorder due to a general medical condition	Condition	SNOMED
mood disorders	4298317	Mood disorder with major depressive-like episode due to general medical condition	Condition	SNOMED
mood disorders	4301106	Bipolar I disorder, single manic episode, in partial remission	Condition	SNOMED
mood disorders	4305966	Postoperative depression	Condition	SNOMED
mood disorders	4307518	Organic mood disorder of mixed type	Condition	SNOMED
mood disorders	4307804	Moderate manic bipolar I disorder	Condition	SNOMED
mood disorders	4307951	Primary dysthymia	Condition	SNOMED
mood disorders	4307956	Bipolar II disorder	Condition	SNOMED
mood disorders	4308866	Agitated depression	Condition	SNOMED
mood disorders	4310821	Bipolar disorder in remission	Condition	SNOMED
mood disorders	4312736	Severe bipolar I disorder, single manic episode with psychotic	Condition	SNOMED

		features, mood-incongruent		
mood disorders	4314692	Reactive depression (situational)	Condition	SNOMED
mood disorders	4322477	Severe bipolar disorder with psychotic features, mood-congruent	Condition	SNOMED
mood disorders	4324945	Mild bipolar II disorder, most recent episode major depressive	Condition	SNOMED
mood disorders	4327669	Bipolar I disorder, single manic episode, in remission	Condition	SNOMED
mood disorders	4328217	Mood disorder with depressive features due to general medical condition	Condition	SNOMED
mood disorders	4329560	Mood disorder with mixed features due to general medical condition	Condition	SNOMED
mood disorders	4330846	Bipolar II disorder, most recent episode major depressive with catatonic features	Condition	SNOMED
mood disorders	4332994	Post-schizophrenic depression	Condition	SNOMED
mood disorders	4333670	Organic bipolar disorder	Condition	SNOMED
mood disorders	4333677	Mania	Condition	SNOMED
mood disorders	4333678	Hypomania	Condition	SNOMED
mood disorders	4333679	Endogenous depression first episode	Condition	SNOMED
mood disorders	4335160	Right hemispheric organic affective disorder	Condition	SNOMED
mood disorders	4335170	Manic stupor	Condition	SNOMED
mood disorders	4336405	Bipolar I disorder, most recent episode depressed with postpartum onset	Condition	SNOMED
mood disorders	4336980	Generalized neuromuscular exhaustion syndrome	Condition	SNOMED
mood disorders	4338019	Organic emotionally labile disorder	Condition	SNOMED
mood disorders	4338029	Masked depression	Condition	SNOMED
mood disorders	4338031	Mixed anxiety and depressive disorder	Condition	SNOMED
mood disorders	4338812	Bipolar I disorder, single manic episode with catatonic features	Condition	SNOMED
mood disorders	35609824	Recurrent reactive depressive episodes, severe, with psychosis	Condition	SNOMED
mood disorders	35609842	Reactive depression, prolonged single episode	Condition	SNOMED
mood disorders	35609843	Reactive depression, single episode	Condition	SNOMED
mood disorders	35609844	Reactive depression, recurrent	Condition	SNOMED

mood disorders	35609845	Reactive depression, first episode	Condition	SNOMED
mood disorders	35610097	Recurrent depression with current severe episode and psychotic features	Condition	SNOMED
mood disorders	35610108	Recurrent depression with current severe episode without psychotic features	Condition	SNOMED
mood disorders	35610109	Recurrent depression with current moderate episode	Condition	SNOMED
mood disorders	35610110	Mania with mood-congruent psychotic features	Condition	SNOMED
mood disorders	35610111	Mania with mood-incongruent psychotic features	Condition	SNOMED
mood disorders	35610112	Mania with psychotic features	Condition	SNOMED
mood disorders	35615154	Recurrent major depressive disorder co-occurrent with anxiety in full remission	Condition	SNOMED
mood disorders	35622934	Psychosis and severe depression co-occurrent and due to bipolar affective disorder	Condition	SNOMED
mood disorders	35624743	Bipolar disorder, most recent episode depression	Condition	SNOMED
mood disorders	35624744	Bipolar disorder, most recent episode manic	Condition	SNOMED
mood disorders	35624745	Bipolar affective disorder, most recent episode mixed	Condition	SNOMED
mood disorders	35624747	Bipolar I disorder, most recent episode manic	Condition	SNOMED
mood disorders	35624748	Bipolar I disorder, most recent episode depression	Condition	SNOMED
mood disorders	36684319	Adjustment disorder with mixed anxiety and depressed mood	Condition	SNOMED
mood disorders	36712668	Perinatal depression	Condition	SNOMED
mood disorders	36713698	Minimal depression	Condition	SNOMED
mood disorders	36717092	Moderately severe depression	Condition	SNOMED
mood disorders	37016268	Opioid-induced mood disorder due to opioid abuse	Condition	SNOMED
mood disorders	37016718	Acute depression	Condition	SNOMED
mood disorders	37018656	Depressive disorder in mother complicating pregnancy	Condition	SNOMED
mood disorders	37018689	Opioid-induced mood disorder due to opioid dependence	Condition	SNOMED
mood disorders	37109940	Bipolar type I disorder currently in full remission	Condition	SNOMED

mood disorders	37109941	Secondary mood disorder	Condition	SNOMED
mood disorders	37109950	Mood disorder with depressive symptoms caused by alcohol	Condition	SNOMED
mood disorders	37109951	Mood disorder with manic symptoms caused by alcohol	Condition	SNOMED
mood disorders	37109952	Mood disorder with mixed manic and depressive symptoms caused by alcohol	Condition	SNOMED
mood disorders	37110428	Mood disorder with depressive symptoms caused by hypnotic	Condition	SNOMED
mood disorders	37110429	Mood disorder with depressive symptoms caused by anxiolytic	Condition	SNOMED
mood disorders	37110430	Mood disorder with manic symptoms caused by sedative	Condition	SNOMED
mood disorders	37110431	Mood disorder with manic symptoms caused by hypnotic	Condition	SNOMED
mood disorders	37110432	Mood disorder with mixed depressive and manic symptoms caused by sedative	Condition	SNOMED
mood disorders	37110433	Mood disorder with mixed depressive and manic symptoms caused by hypnotic	Condition	SNOMED
mood disorders	37110438	Mood disorder with depressive symptoms caused by cocaine	Condition	SNOMED
mood disorders	37110439	Mood disorder with manic symptoms caused by cocaine	Condition	SNOMED
mood disorders	37110452	Mood disorder caused by methylenedioxymethamphetamine	Condition	SNOMED
mood disorders	37110463	Mood disorder caused by dissociative drug	Condition	SNOMED
mood disorders	37110464	Mood disorder caused by ketamine	Condition	SNOMED
mood disorders	37110495	Depressive symptoms due to primary psychotic disorder	Condition	SNOMED
mood disorders	37117177	Bipolar type II disorder currently in full remission	Condition	SNOMED
mood disorders	37117211	Mood disorder with depressive symptoms caused by sedative	Condition	SNOMED
mood disorders	37117212	Mood disorder with manic symptoms caused by anxiolytic	Condition	SNOMED
mood disorders	37117214	Mood disorder with mixed depressive and manic symptoms caused by cocaine	Condition	SNOMED
mood disorders	37119148	Mood disorder with mixed depressive and	Condition	SNOMED

		manic symptoms caused by anxiolytic		
mood disorders	37209503	Depressive disorder caused by amphetamine	Condition	SNOMED
mood disorders	37209504	Bipolar disorder caused by drug	Condition	SNOMED
mood disorders	37309680	Depressive disorder caused by methamphetamine	Condition	SNOMED
mood disorders	37309775	Mood disorder caused by methamphetamine	Condition	SNOMED
mood disorders	37311915	Mood disorder caused by cannabis	Condition	SNOMED
mood disorders	37312479	Antenatal depression	Condition	SNOMED
mood disorders	37312550	Synthetic cannabinoid induced mood disorder	Condition	SNOMED
mood disorders	37312578	Rapid cycling bipolar II disorder	Condition	SNOMED
mood disorders	40481798	Chronic depressive personality disorder	Condition	SNOMED
mood disorders	42538584	Mood disorder with depressive symptoms caused by opioid	Condition	SNOMED
mood disorders	42538585	Mood disorder with mixed depressive and manic symptoms caused by opioid	Condition	SNOMED
mood disorders	42538589	Mood disorder caused by stimulant	Condition	SNOMED
mood disorders	42538590	Mood disorder with depressive symptoms caused by stimulant	Condition	SNOMED
mood disorders	42538591	Mood disorder with mixed depressive and manic symptoms caused by stimulant	Condition	SNOMED
mood disorders	42538595	Mood disorder with manic symptoms caused by hallucinogen	Condition	SNOMED
mood disorders	42538596	Mood disorder with depressive symptoms caused by hallucinogen	Condition	SNOMED
mood disorders	42538597	Mood disorder with mixed depressive and manic symptoms caused by hallucinogen	Condition	SNOMED
mood disorders	42538598	Mood disorder with manic symptoms caused by volatile inhalant	Condition	SNOMED
mood disorders	42538599	Mood disorder with depressive symptoms caused by volatile inhalant	Condition	SNOMED
mood disorders	42538600	Mood disorder with mixed depressive and manic symptoms caused by volatile inhalant	Condition	SNOMED
mood disorders	42538603	Mood disorder with manic symptoms caused by dissociative drug	Condition	SNOMED

mood disorders	42538604	Mood disorder with depressive symptoms caused by dissociative drug	Condition	SNOMED
mood disorders	42538605	Mood disorder with mixed depressive and manic symptoms caused by dissociative drug	Condition	SNOMED
mood disorders	42538735	Mood disorder caused by synthetic cathinone	Condition	SNOMED
mood disorders	42538736	Mood disorder with depressive symptoms caused by synthetic cathinone	Condition	SNOMED
mood disorders	42538737	Mood disorder with manic symptoms caused by synthetic cathinone	Condition	SNOMED
mood disorders	42539145	Mood disorder with manic symptoms caused by opioid	Condition	SNOMED
mood disorders	42539371	Mood disorder with mixed depressive and manic symptoms caused by synthetic cathinone	Condition	SNOMED
mood disorders	42872412	Severe mixed bipolar I disorder	Condition	SNOMED
mood disorders	42872413	Severe depressed bipolar I disorder	Condition	SNOMED
mood disorders	43020451	Severe manic bipolar I disorder	Condition	SNOMED
mood disorders	43020483	Reactive depressive psychosis, single episode	Condition	SNOMED
mood disorders	43021847	Rapid cycling bipolar I disorder	Condition	SNOMED
mood disorders	43021849	Mood disorder of manic type	Condition	SNOMED
mood disorders	44782518	Adjustment disorder with depressed mood in remission	Condition	SNOMED
mood disorders	44782720	Severe seasonal affective disorder	Condition	SNOMED
mood disorders	44782932	Cyclothymia in remission	Condition	SNOMED
mood disorders	44782943	Depressive disorder in remission	Condition	SNOMED
mood disorders	44784526	Adjustment disorder with anxious mood in remission	Condition	SNOMED
mood disorders	44784632	Episodic mood disorder	Condition	SNOMED
mood disorders	44804961	Mixed bipolar affective disorder, in partial remission	Condition	SNOMED
mood disorders	44805540	Mixed bipolar affective disorder, severe	Condition	SNOMED
mood disorders	44805543	Recurrent manic episodes, severe	Condition	SNOMED
mood disorders	44805545	Single manic episode, severe	Condition	SNOMED

mood disorders	44805547	Recurrent manic episodes, in partial remission	Condition	SNOMED
mood disorders	44805548	Recurrent manic episodes, in remission	Condition	SNOMED
mood disorders	44805552	Single manic episode in partial remission	Condition	SNOMED
mood disorders	44805553	Single manic episode in remission	Condition	SNOMED
mood disorders	45757195	Major depressive disorder in mother complicating childbirth	Condition	SNOMED
mood disorders	45757196	Major depressive disorder in mother complicating pregnancy	Condition	SNOMED
mood disorders	45757213	Depressive disorder in mother complicating childbirth	Condition	SNOMED
dementia	37312036	Aggression due to dementia	Condition	SNOMED
dementia	37312035	Agitation due to dementia	Condition	SNOMED
dementia	44784643	Altered behavior in Alzheimer's disease	Condition	SNOMED
dementia	44784620	Altered behavior in Huntington's dementia	Condition	SNOMED
dementia	378419	Alzheimer's disease	Condition	SNOMED
dementia	37395572	Alzheimer's disease co-occurrent with delirium	Condition	SNOMED
dementia	3654598	Amyotrophic lateral sclerosis, parkinsonism, dementia complex	Condition	SNOMED
dementia	4041685	Amyotrophic lateral sclerosis with dementia	Condition	SNOMED
dementia	37312031	Anxiety due to dementia	Condition	SNOMED
dementia	37312030	Apathetic behavior due to dementia	Condition	SNOMED
dementia	376094	Arteriosclerotic dementia with delirium	Condition	SNOMED
dementia	374326	Arteriosclerotic dementia with depression	Condition	SNOMED
dementia	4100252	Arteriosclerotic dementia with paranoia	Condition	SNOMED
dementia	35608576	Behavioral and psychological symptoms of dementia	Condition	SNOMED
dementia	37117145	Behavioral disturbance co-occurrent and due to late onset Alzheimer dementia	Condition	SNOMED
dementia	37399020	Behavioral variant of frontotemporal dementia	Condition	SNOMED
dementia	4092747	Cerebral degeneration presenting primarily with dementia	Condition	SNOMED
dementia	45771254	CHMP2B-related frontotemporal dementia	Condition	SNOMED

dementia	3654434	Cortical vascular dementia	Condition	SNOMED
dementia	37111242	Delirium co-occurrent with dementia	Condition	SNOMED
dementia	44782726	Delusions in Alzheimer's disease	Condition	SNOMED
dementia	4182210	Dementia	Condition	SNOMED
dementia	4228133	Dementia associated with AIDS	Condition	SNOMED
dementia	378726	Dementia associated with alcoholism	Condition	SNOMED
dementia	374888	Dementia associated with another disease	Condition	SNOMED
dementia	44784607	Dementia associated with cerebral anoxia	Condition	SNOMED
dementia	44784472	Dementia associated with cerebral lipidosis	Condition	SNOMED
dementia	44784474	Dementia associated with multiple sclerosis	Condition	SNOMED
dementia	4314734	Dementia associated with Parkinson's Disease	Condition	SNOMED
dementia	37017549	Dementia co-occurrent with human immunodeficiency virus infection	Condition	SNOMED
dementia	36716797	Dementia due to chromosomal anomaly	Condition	SNOMED
dementia	4180284	Dementia due to Creutzfeldt Jakob disease	Condition	SNOMED
dementia	37110513	Dementia due to disorder of central nervous system	Condition	SNOMED
dementia	40483103	Dementia due to Huntington chorea	Condition	SNOMED
dementia	36716796	Dementia due to metabolic abnormality	Condition	SNOMED
dementia	44782559	Dementia due to multiple sclerosis with altered behavior	Condition	SNOMED
dementia	44782422	Dementia due to Parkinson's disease	Condition	SNOMED
dementia	44782710	Dementia due to Pick's disease	Condition	SNOMED
dementia	42538609	Dementia due to prion disease	Condition	SNOMED
dementia	43020422	Dementia due to Rett's syndrome	Condition	SNOMED
dementia	441002	Dementia of frontal lobe type	Condition	SNOMED
dementia	43530664	Dementia of the Alzheimer type with behavioral disturbance	Condition	SNOMED
dementia	43530666	Dementia with behavioral disturbance	Condition	SNOMED
dementia	37116469	Dementia with Down syndrome	Condition	SNOMED
dementia	44782727	Depressed mood in Alzheimer's disease	Condition	SNOMED
dementia	4244346	Dialysis dementia	Condition	SNOMED
dementia	380701	Diffuse Lewy body disease	Condition	SNOMED

dementia	37311665	Disinhibited behavior due to dementia	Condition	SNOMED
dementia	44782432	Early onset Alzheimer's disease with behavioral disturbance	Condition	SNOMED
dementia	37110677	Epilepsy co-occurrent and due to dementia	Condition	SNOMED
dementia	37018608	Epileptic dementia with behavioral disturbance	Condition	SNOMED
dementia	36717455	Familial Alzheimer-like prion disease	Condition	SNOMED
dementia	4043241	Familial Alzheimer's disease of early onset	Condition	SNOMED
dementia	4043243	Familial Alzheimer's disease of late onset	Condition	SNOMED
dementia	4043377	Focal Alzheimer's disease	Condition	SNOMED
dementia	4043378	Frontotemporal dementia	Condition	SNOMED
dementia	45765480	Frontotemporal dementia with parkinsonism-17	Condition	SNOMED
dementia	4250118	GDS level 4 - moderate cognitive decline	Condition	SNOMED
dementia	4233045	GDS level 5 - moderately severe cognitive decline	Condition	SNOMED
dementia	4236296	GDS level 6 - severe cognitive decline	Condition	SNOMED
dementia	4236297	GDS level 7 - very severe cognitive decline	Condition	SNOMED
dementia	45765477	GRN-related frontotemporal dementia	Condition	SNOMED
dementia	37109222	Hallucinations co-occurrent and due to late onset dementia	Condition	SNOMED
dementia	45766396	Inclusion body myopathy with early-onset Paget disease and frontotemporal dementia	Condition	SNOMED
dementia	36717248	Ischemic vascular dementia	Condition	SNOMED
dementia	4044415	Language disorder of dementia	Condition	SNOMED
dementia	44782763	Lewy body dementia with behavioral disturbance	Condition	SNOMED
dementia	762497	Mild dementia	Condition	SNOMED
dementia	4046090	Mixed cortical and subcortical vascular dementia	Condition	SNOMED
dementia	43021816	Mixed dementia	Condition	SNOMED
dementia	762704	Moderate dementia	Condition	SNOMED
dementia	379778	Multi-infarct dementia	Condition	SNOMED
dementia	37395562	Multi-infarct dementia due to atherosclerosis	Condition	SNOMED
dementia	377254	Multi-infarct dementia, uncomplicated	Condition	SNOMED
dementia	444091	Multi-infarct dementia with delirium	Condition	SNOMED

dementia	443790	Multi-infarct dementia with delusions	Condition	SNOMED
dementia	443864	Multi-infarct dementia with depression	Condition	SNOMED
dementia	36716558	Non-amnestic Alzheimer disease	Condition	SNOMED
dementia	4043242	Non-familial Alzheimer's disease of early onset	Condition	SNOMED
dementia	4043244	Non-familial Alzheimer's disease of late onset	Condition	SNOMED
dementia	4224860	Organic dementia associated with AIDS	Condition	SNOMED
dementia	37396063	Parkinsonism with dementia of Guadeloupe	Condition	SNOMED
dementia	4047748	Patchy dementia	Condition	SNOMED
dementia	35610098	Predominantly cortical dementia	Condition	SNOMED
dementia	35610099	Predominantly cortical vascular dementia	Condition	SNOMED
dementia	378125	Presenile dementia	Condition	SNOMED
dementia	4224240	Presenile dementia associated with AIDS	Condition	SNOMED
dementia	37017247	Presenile dementia co-occurrent with human immunodeficiency virus infection	Condition	SNOMED
dementia	381832	Presenile dementia with delirium	Condition	SNOMED
dementia	44782771	Presenile dementia with delusions	Condition	SNOMED
dementia	377527	Presenile dementia with depression	Condition	SNOMED
dementia	4098163	Presenile dementia with paranoia	Condition	SNOMED
dementia	35610096	Presenile dementia with psychosis	Condition	SNOMED
dementia	43020444	Primary degenerative dementia	Condition	SNOMED
dementia	4218017	Primary degenerative dementia of the Alzheimer type, presenile onset	Condition	SNOMED
dementia	4277444	Primary degenerative dementia of the Alzheimer type, presenile onset, uncomplicated	Condition	SNOMED
dementia	4277746	Primary degenerative dementia of the Alzheimer type, presenile onset, with delirium	Condition	SNOMED
dementia	4182539	Primary degenerative dementia of the Alzheimer type, presenile onset, with delusions	Condition	SNOMED
dementia	4019705	Primary degenerative dementia of the Alzheimer type,	Condition	SNOMED

		presenile onset, with depression		
dementia	4220313	Primary degenerative dementia of the Alzheimer type, senile onset	Condition	SNOMED
dementia	4278830	Primary degenerative dementia of the Alzheimer type, senile onset, uncomplicated	Condition	SNOMED
dementia	762578	Primary degenerative dementia of the Alzheimer type, senile onset, with behavioral disturbance	Condition	SNOMED
dementia	4167839	Primary degenerative dementia of the Alzheimer type, senile onset, with delirium	Condition	SNOMED
dementia	4204688	Primary degenerative dementia of the Alzheimer type, senile onset, with delusions	Condition	SNOMED
dementia	4097384	Primary degenerative dementia of the Alzheimer type, senile onset, with depression	Condition	SNOMED
dementia	36674472	PRKAR1B-related neurodegenerative dementia with intermediate filaments	Condition	SNOMED
dementia	4043379	Progressive aphasia in Alzheimer's disease	Condition	SNOMED
dementia	37311890	Psychological symptom due to dementia	Condition	SNOMED
dementia	37109635	Rapidly progressive dementia	Condition	SNOMED
dementia	4046091	Semantic dementia	Condition	SNOMED
dementia	4048875	Senile dementia	Condition	SNOMED
dementia	4196433	Senile dementia of the Lewy body type	Condition	SNOMED
dementia	376946	Senile dementia with delirium	Condition	SNOMED
dementia	380986	Senile dementia with delusion	Condition	SNOMED
dementia	379784	Senile dementia with depression	Condition	SNOMED
dementia	4101137	Senile dementia with depressive or paranoid features	Condition	SNOMED
dementia	4100250	Senile dementia with paranoia	Condition	SNOMED
dementia	4159643	Senile dementia with psychosis	Condition	SNOMED
dementia	765653	Severe dementia	Condition	SNOMED
dementia	42538857	Subcortical dementia	Condition	SNOMED
dementia	4047747	Subcortical vascular dementia	Condition	SNOMED
dementia	439276	Uncomplicated arteriosclerotic dementia	Condition	SNOMED
dementia	376085	Uncomplicated presenile dementia	Condition	SNOMED

dementia	375791	Uncomplicated senile dementia	Condition	SNOMED
dementia	443605	Vascular dementia	Condition	SNOMED
dementia	4046089	Vascular dementia of acute onset	Condition	SNOMED
dementia	37018688	Vascular dementia with behavioral disturbance	Condition	SNOMED
dementia	37109056	Vascular dementia without behavioral disturbance	Condition	SNOMED
dementia	37312577	Wandering due to dementia	Condition	SNOMED
apathy	4071366	Indifference	Condition	SNOMED
apathy	37312030	Apathetic behavior due to dementia	Condition	SNOMED
intellectual disability	40277917	Intellectual disability	Condition	SNOMED
intellectual disability	608002	X-linked intellectual disability hypotonic face syndrome	Condition	SNOMED
intellectual disability	4041136	Intellectual functioning disability	Condition	SNOMED
intellectual disability	438733	Profound intellectual disability	Condition	SNOMED
intellectual disability	4141891	Hyperphosphatasemia with intellectual disability	Condition	SNOMED
intellectual disability	432898	Severe intellectual disability	Condition	SNOMED
intellectual disability	4133527	Intellectual disability, congenital heart disease, blepharophimosis, blepharoptosis and hypoplastic teeth	Condition	SNOMED
intellectual disability	4173610	X-linked intellectual disability with marfanoid habitus	Condition	SNOMED
intellectual disability	436682	Moderate intellectual disability	Condition	SNOMED
intellectual disability	45766270	CASK related intellectual disability	Condition	SNOMED
intellectual disability	37399441	Alpha thalassemia X-linked intellectual disability syndrome	Condition	SNOMED
intellectual disability	37399497	Early onset parkinsonism and intellectual disability syndrome	Condition	SNOMED
intellectual disability	37396778	Female restricted epilepsy with intellectual disability syndrome	Condition	SNOMED
intellectual disability	37399013	FRAXE intellectual disability syndrome	Condition	SNOMED
intellectual disability	37397173	Microphthalmia with ankyloblepharon and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36713803	Spondyloepiphyseal dysplasia, craniosynostosis, cleft palate, cataract and intellectual disability syndrome	Condition	SNOMED

intellectual disability	36713853	X-linked intellectual disability with ataxia and apraxia syndrome	Condition	SNOMED
intellectual disability	36717325	X-linked recessive intellectual disability and macrocephaly with ciliary dysfunction syndrome	Condition	SNOMED
intellectual disability	36717679	X-linked intellectual disability Seemanova type	Condition	SNOMED
intellectual disability	36713896	Syndromic X-linked intellectual disability type 11	Condition	SNOMED
intellectual disability	36713900	X-linked intellectual disability Shrimpton type	Condition	SNOMED
intellectual disability	36713902	X-linked intellectual disability Siderius type	Condition	SNOMED
intellectual disability	36713903	X-linked intellectual disability Stevenson type	Condition	SNOMED
intellectual disability	36713904	X-linked intellectual disability Stocco Dos Santos type	Condition	SNOMED
intellectual disability	36713905	X-linked intellectual disability Stoll type	Condition	SNOMED
intellectual disability	36713906	X-linked intellectual disability Turner type	Condition	SNOMED
intellectual disability	36713908	X-linked intellectual disability Van Esch type	Condition	SNOMED
intellectual disability	36717686	X-linked intellectual disability Wilson type	Condition	SNOMED
intellectual disability	36713963	X-linked intellectual disability Schimke type	Condition	SNOMED
intellectual disability	36713964	X-linked intellectual disability Pai type	Condition	SNOMED
intellectual disability	36713965	X-linked intellectual disability Miles Carpenter type	Condition	SNOMED
intellectual disability	36713966	X-linked intellectual disability Cilliers type	Condition	SNOMED
intellectual disability	36713967	X-linked intellectual disability Cantagrel type	Condition	SNOMED
intellectual disability	36713968	X-linked intellectual disability Armfield type	Condition	SNOMED
intellectual disability	36713969	X-linked intellectual disability Abidi type	Condition	SNOMED
intellectual disability	36713988	Uveal coloboma with cleft lip and palate and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36714051	X-linked intellectual disability with cerebellar hypoplasia syndrome	Condition	SNOMED
intellectual disability	36714053	X-linked intellectual disability with cubitus valgus and dysmorphism syndrome	Condition	SNOMED
intellectual disability	36714067	X-linked intellectual disability and epilepsy with progressive joint	Condition	SNOMED

		contracture and facial dysmorphism syndrome		
intellectual disability	36714068	X-linked intellectual disability with hypogammaglobulinemia and progressive neurological deterioration syndrome	Condition	SNOMED
intellectual disability	36714069	X-linked intellectual disability and hypotonia with facial dysmorphism and aggressive behavior syndrome	Condition	SNOMED
intellectual disability	36714072	Syndromic X-linked intellectual disability type 7	Condition	SNOMED
intellectual disability	36714073	Syndromic X-linked intellectual disability due to JARID1C mutation	Condition	SNOMED
intellectual disability	36714144	Pterygium colli with intellectual disability and digital anomaly syndrome	Condition	SNOMED
intellectual disability	36714286	Disorder of sex development with intellectual disability syndrome	Condition	SNOMED
intellectual disability	36714528	X-linked intellectual disability with seizure and psoriasis syndrome	Condition	SNOMED
intellectual disability	36714529	X-linked intellectual disability Cabezas type	Condition	SNOMED
intellectual disability	36717758	X-linked intellectual disability with plagiocephaly syndrome	Condition	SNOMED
intellectual disability	36714541	X-linked intellectual disability, macrocephaly, macroorchidism syndrome	Condition	SNOMED
intellectual disability	36714542	X-linked intellectual disability with acromegaly and hyperactivity syndrome	Condition	SNOMED
intellectual disability	36714554	Congenital hypoplasia of ulna and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715012	Aniridia and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715036	Arachnodactyly with abnormal ossification and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715037	Arachnodactyly and intellectual disability with facial dysmorphism syndrome	Condition	SNOMED
intellectual disability	36715050	Ataxia with deafness and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715141	Coloboma, congenital heart disease,	Condition	SNOMED

		ichthyosiform dermatosis, intellectual disability ear anomaly syndrome		
intellectual disability	36717431	Alopecia, contracture, dwarfism, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715349	Alopecia, psychomotor epilepsy, periodontal pyorrhea, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715350	Alopecia and intellectual disability with hypergonadotropic hypogonadism syndrome	Condition	SNOMED
intellectual disability	36715351	Alport syndrome, intellectual disability, midface hypoplasia, elliptocytosis syndrome	Condition	SNOMED
intellectual disability	36715355	Aniridia, ptosis, intellectual disability, familial obesity syndrome	Condition	SNOMED
intellectual disability	36715367	Hair defect with photosensitivity and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715416	Deafness and intellectual disability Martin Probst type syndrome	Condition	SNOMED
intellectual disability	36717441	Dentinogenesis imperfecta, short stature, hearing loss, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36715461	Intellectual disability, epilepsy, bulbous nose syndrome	Condition	SNOMED
intellectual disability	36715509	Seizure, sensorineural deafness, ataxia, intellectual disability, electrolyte imbalance syndrome	Condition	SNOMED
intellectual disability	36716030	Hypogonadism with mitral valve prolapse and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36716108	Lipodystrophy, intellectual disability, deafness syndrome	Condition	SNOMED
intellectual disability	36716124	Intellectual disability with cataract and kyphosis syndrome	Condition	SNOMED
intellectual disability	36716191	Osteogenesis imperfecta, retinopathy, seizures, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36716192	Osteopenia, myopia, hearing loss, intellectual disability, facial dysmorphism syndrome	Condition	SNOMED

intellectual disability	36716260	Spastic paraplegia, intellectual disability, palmoplantar hyperkeratosis syndrome	Condition	SNOMED
intellectual disability	36716264	Severe X-linked intellectual disability Gustavson type	Condition	SNOMED
intellectual disability	36717547	Agenesis of corpus callosum, intellectual disability, coloboma, micrognathia syndrome	Condition	SNOMED
intellectual disability	36716388	Congenital cataract with hypertrichosis and intellectual disability syndrome	Condition	SNOMED
intellectual disability	36717215	Intellectual disability, craniofacial dysmorphism, hypogonadism, diabetes mellitus syndrome	Condition	SNOMED
intellectual disability	36716446	Intellectual disability, hypoplastic corpus callosum, preauricular tag syndrome	Condition	SNOMED
intellectual disability	36716447	Intellectual disability, developmental delay, contracture syndrome	Condition	SNOMED
intellectual disability	36716449	Male hypergonadotropic hypogonadism, intellectual disability, skeletal anomaly syndrome	Condition	SNOMED
intellectual disability	36716463	Skeletal dysplasia with intellectual disability syndrome	Condition	SNOMED
intellectual disability	37118888	Microcephaly, seizure, intellectual disability, heart disease syndrome	Condition	SNOMED
intellectual disability	37109597	Fallot complex with intellectual disability and growth delay syndrome	Condition	SNOMED
intellectual disability	37109617	Hypotrichosis and intellectual disability syndrome Lopes type	Condition	SNOMED
intellectual disability	37118953	Non-progressive cerebellar ataxia with intellectual disability	Condition	SNOMED
intellectual disability	37109775	Spastic tetraplegia, retinitis pigmentosa, intellectual disability syndrome	Condition	SNOMED
intellectual disability	37118973	Severe intellectual disability, epilepsy, anal anomaly, distal phalangeal hypoplasia syndrome	Condition	SNOMED
intellectual disability	37109991	Seizures and intellectual disability due to hydroxylysinuria	Condition	SNOMED
intellectual disability	37109996	Retinitis pigmentosa, intellectual disability,	Condition	SNOMED

		deafness, hypogenitalism syndrome		
intellectual disability	37110103	Laryngeal abductor paralysis with intellectual disability syndrome	Condition	SNOMED
intellectual disability	37110783	X-linked spasticity, intellectual disability, epilepsy syndrome	Condition	SNOMED
intellectual disability	37111245	Intellectual disability Buenos Aires type	Condition	SNOMED
intellectual disability	37111251	X-linked intellectual disability Brooks type	Condition	SNOMED
intellectual disability	37111654	Intellectual disability, cataract, calcified pinna, myopathy syndrome	Condition	SNOMED
intellectual disability	37111663	X-linked intellectual disability Hedera type	Condition	SNOMED
intellectual disability	37111667	X-linked intellectual disability Nascimento type	Condition	SNOMED
intellectual disability	37115758	X-linked intellectual disability, limb spasticity, retinal dystrophy, diabetes insipidus syndrome	Condition	SNOMED
intellectual disability	37118457	Cortical blindness, intellectual disability, polydactyly syndrome	Condition	SNOMED
intellectual disability	37117739	Osteopenia, intellectual disability, sparse hair syndrome	Condition	SNOMED
intellectual disability	37116296	Branchial dysplasia, intellectual disability, inguinal hernia syndrome	Condition	SNOMED
intellectual disability	37116372	Marfanoid habitus with autosomal recessive intellectual disability syndrome	Condition	SNOMED
intellectual disability	37116391	Preaxial polydactyly, colobomata, intellectual disability syndrome	Condition	SNOMED
intellectual disability	37116399	Ichthyosis, intellectual disability, dwarfism, renal impairment syndrome	Condition	SNOMED
intellectual disability	37116413	Thumb stiffness, brachydactyly, intellectual disability syndrome	Condition	SNOMED
intellectual disability	37116641	Metaphyseal dysostosis, intellectual disability, conductive deafness syndrome	Condition	SNOMED
intellectual disability	37116656	Spastic paraplegia, glaucoma, intellectual disability syndrome	Condition	SNOMED
intellectual disability	37116668	Hereditary congenital hypomelanotic and hypermelanotic	Condition	SNOMED

		cutaneous macules, growth retardation, intellectual disability syndrome		
intellectual disability	37116706	Megalocornea with intellectual disability syndrome	Condition	SNOMED
intellectual disability	37118763	Ectodermal dysplasia, intellectual disability, central nervous system malformation syndrome	Condition	SNOMED
intellectual disability	42539413	Alpha-thalassemia intellectual disability syndrome linked to chromosome 16	Condition	SNOMED
intellectual disability	35621875	Charcot-Marie-Tooth disease, deafness, intellectual disability syndrome	Condition	SNOMED
intellectual disability	35622032	Cerebellar ataxia, intellectual disability, oculomotor apraxia, cerebellar cysts syndrome	Condition	SNOMED
intellectual disability	35622038	Intellectual disability, obesity, brain malformation, facial dysmorphism syndrome	Condition	SNOMED
intellectual disability	35622087	Ichthyosis, alopecia, eclabion, ectropion, intellectual disability syndrome	Condition	SNOMED
intellectual disability	35622247	Aortic arch anomaly, facial dysmorphism, intellectual disability syndrome	Condition	SNOMED
intellectual disability	35622258	Intellectual disability due to nutritional deficiency	Condition	SNOMED
intellectual disability	35622278	Craniodigital syndrome and intellectual disability syndrome	Condition	SNOMED
intellectual disability	35622323	Intellectual disability, alacrima, achalasia syndrome	Condition	SNOMED
intellectual disability	35622324	Intellectual disability, polydactyly, uncombable hair syndrome	Condition	SNOMED
intellectual disability	35622325	Intellectual disability, spasticity, ectrodactyly syndrome	Condition	SNOMED
intellectual disability	35622326	Intellectual disability, brachydactyly, Pierre Robin syndrome	Condition	SNOMED
intellectual disability	35622327	Intellectual disability Wolff type	Condition	SNOMED
intellectual disability	35607971	Pachygyria, intellectual disability, epilepsy syndrome	Condition	SNOMED
intellectual disability	35622702	Intellectual disability Birk-Barel type	Condition	SNOMED
intellectual disability	35622769	Cryptorchidism, arachnodactyly,	Condition	SNOMED

		intellectual disability syndrome		
intellectual disability	35622777	Intellectual disability, myopathy, short stature, endocrine defect syndrome	Condition	SNOMED
intellectual disability	35622869	Focal epilepsy, intellectual disability, cerebro-cerebellar malformation syndrome	Condition	SNOMED
intellectual disability	35623128	HIVEP2-related intellectual disability	Condition	SNOMED
intellectual disability	35623139	X-linked intellectual disability, hypogonadism, ichthyosis, obesity, short stature syndrome	Condition	SNOMED
intellectual disability	35623289	Brachydactyly, mesomelia, intellectual disability, heart defect syndrome	Condition	SNOMED
intellectual disability	35624210	ADNP-related multiple congenital anomalies, intellectual disability, autism spectrum disorder	Condition	SNOMED
intellectual disability	35625633	PPP2R5D-related intellectual disability	Condition	SNOMED
intellectual disability	36674712	Early-onset epileptic encephalopathy and intellectual disability due to GRIN2A mutation	Condition	SNOMED
intellectual disability	36674826	Polyneuropathy, intellectual disability, acromicria, premature menopause syndrome	Condition	SNOMED
intellectual disability	36674865	Microcephaly, thin corpus callosum, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36674867	Optic atrophy, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36674893	Intellectual disability, seizures, macrocephaly, obesity syndrome	Condition	SNOMED
intellectual disability	36674191	Intellectual disability, seizures, hypotonia, ophthalmologic, skeletal anomalies syndrome	Condition	SNOMED
intellectual disability	36674914	Autosomal recessive cerebellar ataxia, epilepsy, intellectual disability syndrome due to WWOX deficiency	Condition	SNOMED
intellectual disability	36674915	Autosomal recessive intellectual disability, motor dysfunction, multiple joint contracture syndrome	Condition	SNOMED
intellectual disability	36674971	Microcephaly, short stature, intellectual	Condition	SNOMED

		disability, facial dysmorphism syndrome		
intellectual disability	36674974	Intellectual disability, short stature, hypertelorism syndrome	Condition	SNOMED
intellectual disability	36674995	X-linked colobomatous microphthalmia, microcephaly, intellectual disability, short stature syndrome	Condition	SNOMED
intellectual disability	36674996	Hepatic fibrosis, renal cyst, intellectual disability syndrome	Condition	SNOMED
intellectual disability	4299505	Borderline intellectual disability	Condition	SNOMED
intellectual disability	36676400	X-linked intellectual disability, craniofacioskeletal syndrome	Condition	SNOMED
intellectual disability	36676502	Intellectual disability with strabismus syndrome	Condition	SNOMED
intellectual disability	36676513	Intellectual disability, facial dysmorphism, hand anomalies syndrome	Condition	SNOMED
intellectual disability	36676516	Severe intellectual disability, short stature, behavioral abnormalities, facial dysmorphism syndrome	Condition	SNOMED
intellectual disability	36676588	Autosomal recessive cerebellar ataxia, epilepsy, intellectual disability syndrome due to TUD deficiency	Condition	SNOMED
intellectual disability	36676621	Early-onset epileptic encephalopathy, cortical blindness, intellectual disability, facial dysmorphism syndrome	Condition	SNOMED
intellectual disability	36676624	Severe intellectual disability, poor language, strabismus, grimacing face, long fingers syndrome	Condition	SNOMED
intellectual disability	36676625	Intellectual disability, feeding difficulties, developmental delay, microcephaly syndrome	Condition	SNOMED
intellectual disability	36676626	Hypohidrosis, enamel hypoplasia, palmoplantar keratoderma, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36676629	Short ulna, dysmorphism, hypotonia, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36676634	Spondylocostal dysostosis, hypospadias,	Condition	SNOMED

		intellectual disability syndrome		
intellectual disability	36676637	Intellectual disability, craniofacial dysmorphism, cryptorchidism syndrome	Condition	SNOMED
intellectual disability	36676639	Aphonia, deafness, retinal dystrophy, bifid halluces, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36676642	X-linked intellectual disability, cardiomegaly, congestive heart failure syndrome	Condition	SNOMED
intellectual disability	36676669	Intellectual disability, hypotonia, brachycephaly, pyloric stenosis, cryptorchidism syndrome	Condition	SNOMED
intellectual disability	36676715	Late-onset localized junctional epidermolysis bullosa, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36676726	Rare non-syndromic intellectual disability	Condition	SNOMED
intellectual disability	36674471	AHDC1-related intellectual disability, obstructive sleep apnea, mild dysmorphism syndrome	Condition	SNOMED
intellectual disability	36674490	Intellectual disability, obesity, prognathism, eye and skin anomalies syndrome	Condition	SNOMED
intellectual disability	36676854	Severe intellectual disability, progressive postnatal microcephaly, midline stereotypic hand movements syndrome	Condition	SNOMED
intellectual disability	36676897	Intellectual disability, severe speech delay, mild dysmorphism syndrome	Condition	SNOMED
intellectual disability	36678790	Colobomatous microphthalmia, obesity, hypogenitalism, intellectual disability syndrome	Condition	SNOMED
intellectual disability	36680587	Blepharophimosis, intellectual disability syndrome, Verloes type	Condition	SNOMED
intellectual disability	36674508	Severe intellectual disability and progressive spastic paraplegia	Condition	SNOMED
intellectual disability	36683256	SYNGAP1-related intellectual disability	Condition	SNOMED
intellectual disability	37204209	Autosomal recessive cerebellar ataxia,	Condition	SNOMED

		epilepsy, intellectual disability syndrome due to RUBCN deficiency		
intellectual disability	37204211	Severe intellectual disability, progressive spastic diplegia syndrome	Condition	SNOMED
intellectual disability	37204216	Intellectual disability, facial dysmorphism syndrome due to SETD5 haploinsufficiency	Condition	SNOMED
intellectual disability	37204230	Intellectual disability, coarse face, macrocephaly, cerebellar hypotrophy syndrome	Condition	SNOMED
intellectual disability	37204232	Primary microcephaly, mild intellectual disability, young-onset diabetes syndrome	Condition	SNOMED
intellectual disability	37204238	Congenital muscular dystrophy with intellectual disability and severe epilepsy	Condition	SNOMED
intellectual disability	37204321	Ophthalmoplegia, intellectual disability, lingua scrotalis syndrome	Condition	SNOMED
intellectual disability	37204364	Severe microbrachycephaly, intellectual disability, athetoid cerebral palsy syndrome	Condition	SNOMED
intellectual disability	37204430	Macrocephaly, intellectual disability, autism syndrome	Condition	SNOMED
intellectual disability	37204504	Congenital muscular dystrophy with intellectual disability	Condition	SNOMED
intellectual disability	37204505	Congenital muscular dystrophy without intellectual disability	Condition	SNOMED
intellectual disability	37204735	DYRK1A-related intellectual disability syndrome due to 21q22.13q22.2 microdeletion	Condition	SNOMED
intellectual disability	37204804	X-linked intellectual disability due to GRIA3 mutations	Condition	SNOMED
intellectual disability	37204805	White matter hypoplasia, corpus callosum agenesis, intellectual disability syndrome	Condition	SNOMED
intellectual disability	37206827	Intellectual disability, hyperkinetic movement, truncal ataxia syndrome	Condition	SNOMED
intellectual disability	37206828	ANK3-related intellectual disability, sleep disturbance syndrome	Condition	SNOMED
intellectual disability	37312387	Alopecia, epilepsy, intellectual disability	Condition	SNOMED

		syndrome Moynahan type		
intellectual disability	432612	Mild intellectual disability	Condition	SNOMED
intellectual disability	436803	Fragile X syndrome	Condition	SNOMED
intellectual disability	37204317	Richieri Costa-da Silva syndrome	Condition	SNOMED
intellectual disability	35610128	Mild intellectual development disorder with minimal impairment of behaviour	Condition	SNOMED
intellectual disability	36714026	Congenital cataract with ataxia and deafness syndrome	Condition	SNOMED
intellectual disability	36717662	Oro-facial digital syndrome type 11	Condition	SNOMED
intellectual disability	36716189	Ossification anomaly with psychomotor developmental delay syndrome	Condition	SNOMED
intellectual disability	35610115	Profound intellectual development disorder with significant impairment of behaviour	Condition	SNOMED
intellectual disability	36717691	Shprintzen Goldberg craniosynostosis syndrome	Condition	SNOMED
intellectual disability	36674921	Kagami Ogata syndrome	Condition	SNOMED
intellectual disability	45765422	PPM-X syndrome	Condition	SNOMED
intellectual disability	37117794	SCARF syndrome	Condition	SNOMED
intellectual disability	36713856	Fried syndrome	Condition	SNOMED
intellectual disability	35610117	Profound intellectual development disorder with impairment of behaviour	Condition	SNOMED
intellectual disability	35610118	Severe intellectual development disorder without significant impairment of behaviour	Condition	SNOMED
intellectual disability	36716048	Radioulnar synostosis with developmental delay and hypotonia syndrome	Condition	SNOMED
intellectual disability	37397559	Wolf Hirschhorn syndrome	Condition	SNOMED
intellectual disability	36714074	Radioulnar synostosis with microcephaly and scoliosis syndrome	Condition	SNOMED
intellectual disability	36714383	17q11.2 microduplication syndrome	Condition	SNOMED
intellectual disability	36714522	DOORS syndrome	Condition	SNOMED
intellectual disability	36717524	MEDNIK syndrome	Condition	SNOMED
intellectual disability	37116354	Epilepsy, microcephaly, skeletal dysplasia syndrome	Condition	SNOMED
intellectual disability	37206121	Hyperekplexia epilepsy syndrome	Condition	SNOMED
intellectual disability	4296631	Angelman syndrome	Condition	SNOMED

intellectual disability	35607964	Agenesis of corpus callosum and abnormal genitalia syndrome	Condition	SNOMED
intellectual disability	36675149	15q overgrowth syndrome	Condition	SNOMED
intellectual disability	36676500	Severe feeding difficulties, failure to thrive, microcephaly due to ASXL3 deficiency syndrome	Condition	SNOMED
intellectual disability	36715217	Cooper Jabs syndrome	Condition	SNOMED
intellectual disability	35610518	Intellectual development disorder with significant impairment of behaviour	Condition	SNOMED
intellectual disability	37116639	Facial dysmorphism, macrocephaly, myopia, Dandy-Walker malformation syndrome	Condition	SNOMED
intellectual disability	36716389	Martsolf syndrome	Condition	SNOMED
intellectual disability	35610519	Intellectual development disorder with minimal impairment of behaviour	Condition	SNOMED
intellectual disability	45765412	Pitt-Hopkins syndrome	Condition	SNOMED
intellectual disability	36713570	BRESEK syndrome	Condition	SNOMED
intellectual disability	36675122	Autism epilepsy syndrome due to branched chain ketoacid dehydrogenase kinase deficiency	Condition	SNOMED
intellectual disability	36716314	Agammaglobulinemia, microcephaly, craniosynostosis, severe dermatitis syndrome	Condition	SNOMED
intellectual disability	36715305	Cerebrooculonasal syndrome	Condition	SNOMED
intellectual disability	36674736	Microcephalic primordial dwarfism Dauber type	Condition	SNOMED
intellectual disability	37110832	5-amino-4-imidazole carboxamide ribosiduria	Condition	SNOMED
intellectual disability	35610119	Severe intellectual development disorder with significant impairment of behaviour	Condition	SNOMED
intellectual disability	36676627	THOC6-related developmental delay-microcephaly-facial dysmorphism syndrome	Condition	SNOMED
intellectual disability	37109595	Faciocardiorenal syndrome	Condition	SNOMED
intellectual disability	37110134	Infantile choroidocerebral calcification syndrome	Condition	SNOMED
intellectual disability	36716160	Okamoto syndrome	Condition	SNOMED

intellectual disability	35623414	Microcephalic primordial dwarfism Montreal type	Condition	SNOMED
intellectual disability	37116412	Aniridia, renal agenesis, psychomotor retardation syndrome	Condition	SNOMED
intellectual disability	35624222	Epiphyseal dysplasia, hearing loss, dysmorphism syndrome	Condition	SNOMED
intellectual disability	36715332	Fine Lubinsky syndrome	Condition	SNOMED
intellectual disability	35621977	Facial dysmorphism, cleft palate, loose skin syndrome	Condition	SNOMED
intellectual disability	44783252	Myhre syndrome	Condition	SNOMED
intellectual disability	37396341	Kawashima Tsuji syndrome	Condition	SNOMED
intellectual disability	35625760	DNMT3A-related overgrowth syndrome	Condition	SNOMED
intellectual disability	36675177	Autism spectrum disorder due to AUTS2 deficiency	Condition	SNOMED
intellectual disability	36675142	Jawad syndrome	Condition	SNOMED
intellectual disability	35610122	Moderate intellectual development disorder without significant impairment of behaviour	Condition	SNOMED
intellectual disability	36716387	Congenital cataract with deafness and hypogonadism syndrome	Condition	SNOMED
intellectual disability	4033911	Kohlschutter's syndrome	Condition	SNOMED
intellectual disability	3657468	Significant learning disability	Condition	SNOMED
intellectual disability	44783569	Renpenning syndrome	Condition	SNOMED
intellectual disability	35610123	Moderate intellectual development disorder with significant impairment of behaviour	Condition	SNOMED
intellectual disability	36676583	9q31.1q31.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	36674903	Developmental delay with autism spectrum disorder and gait instability	Condition	SNOMED
intellectual disability	35622011	Craniofaciofrontodigital syndrome	Condition	SNOMED
intellectual disability	4072144	Cross syndrome	Condition	SNOMED
intellectual disability	36713523	Biemond syndrome type 2	Condition	SNOMED
intellectual disability	35610127	Mild intellectual development disorder with significant impairment of behaviour	Condition	SNOMED
intellectual disability	35621906	Grubben, De Cock, Borghgraef syndrome	Condition	SNOMED
intellectual disability	4288480	Rett's disorder	Condition	SNOMED
intellectual disability	36674517	Atypical hypotonia cystinuria syndrome	Condition	SNOMED

intellectual disability	36715139	Cerebro-facio-thoracic dysplasia	Condition	SNOMED
intellectual disability	35622041	Cerebrofacioarticular syndrome	Condition	SNOMED
intellectual disability	36713991	12q14 microdeletion syndrome	Condition	SNOMED
intellectual disability	37110772	Temple Baraitser syndrome	Condition	SNOMED
intellectual disability	37395856	McDonough syndrome	Condition	SNOMED
intellectual disability	37118960	Ramos Arroyo syndrome	Condition	SNOMED
intellectual disability	37396500	Urban Rogers Meyer syndrome	Condition	SNOMED
intellectual disability	36674770	X-linked cerebral, cerebellar, coloboma syndrome	Condition	SNOMED
intellectual disability	36713653	Atkin Flaitz syndrome	Condition	SNOMED
intellectual disability	36715331	Filippi syndrome	Condition	SNOMED
intellectual disability	36714301	Cleft palate with short stature and vertebral anomaly syndrome	Condition	SNOMED
intellectual disability	45765468	Snyder-Robinson syndrome	Condition	SNOMED
intellectual disability	36676430	Zechi Ceide syndrome	Condition	SNOMED
intellectual disability	35610120	Severe intellectual development disorder with minimal impairment of behaviour	Condition	SNOMED
intellectual disability	36675667	White Sutton syndrome	Condition	SNOMED
intellectual disability	37111628	Weaver Williams syndrome	Condition	SNOMED
intellectual disability	36716154	Oculocerebrofacial syndrome Kaufman type	Condition	SNOMED
intellectual disability	44783239	Ohdo syndrome, Say-Barber-Biesecker-Young-Simpson variant	Condition	SNOMED
intellectual disability	37204024	Developmental delay, facial dysmorphism syndrome due to MED13L deficiency	Condition	SNOMED
intellectual disability	35610516	Mild intellectual development disorder with impairment of behaviour	Condition	SNOMED
intellectual disability	605204	X-linked complicated corpus callosum dysgenesis	Condition	SNOMED
intellectual disability	4209284	Bardet-Biedl syndrome	Condition	SNOMED
intellectual disability	35610520	Intellectual development disorder with impairment of behaviour	Condition	SNOMED
intellectual disability	36674396	Deafness with onychodystrophy syndrome	Condition	SNOMED
intellectual disability	37204308	Hereditary cryohydrocytosis with reduced stomatin	Condition	SNOMED
intellectual disability	4100702	Gillespie syndrome	Condition	SNOMED
intellectual disability	4065596	Borjeson-Forssman-Lehmann syndrome	Condition	SNOMED
intellectual disability	35607999	Cognitive impairment, coarse facies, heart	Condition	SNOMED

		defects, obesity, pulmonary involvement, short stature, skeletal dysplasia syndrome		
intellectual disability	36714103	Spondyloepiphyseal dysplasia tarda Kohn type	Condition	SNOMED
intellectual disability	4240091	Seckel syndrome	Condition	SNOMED
intellectual disability	37396390	Perniola Krajewska Carnevale syndrome	Condition	SNOMED
intellectual disability	37109675	Phosphoribosylpyrophosphate synthetase superactivity	Condition	SNOMED
intellectual disability	35610116	Profound intellectual development disorder with minimal impairment of behaviour	Condition	SNOMED
intellectual disability	37206825	21q22.11q22.12 microdeletion syndrome	Condition	SNOMED
intellectual disability	37116293	Brachydactyly and preaxial hallux varus syndrome	Condition	SNOMED
intellectual disability	36675025	Pseudoleprechaunism syndrome Patterson type	Condition	SNOMED
intellectual disability	35624153	Nijmegen breakage syndrome-like disorder	Condition	SNOMED
intellectual disability	45766388	Mowat-Wilson syndrome	Condition	SNOMED
intellectual disability	45765490	Arts syndrome	Condition	SNOMED
intellectual disability	36675005	Extrasystoles, short stature, hyperpigmentation, microcephaly syndrome	Condition	SNOMED
intellectual disability	36676696	Distal Xq28 microduplication syndrome	Condition	SNOMED
intellectual disability	37312299	Blepharophimosis and mental retardation syndrome	Condition	SNOMED
intellectual disability	35622341	Macrocephaly and developmental delay syndrome	Condition	SNOMED
intellectual disability	36676367	Cyclin-dependent kinase-like 5 deficiency	Condition	SNOMED
intellectual disability	37111247	Neurofaciodigitorenal syndrome	Condition	SNOMED
intellectual disability	45771339	Neuronal ceroid lipofuscinosis 8	Condition	SNOMED
intellectual disability	36717050	Achalasia microcephaly syndrome	Condition	SNOMED
intellectual disability	36674894	Severe motor and intellectual disabilities, sensorineural deafness, dystonia syndrome	Condition	SNOMED
intellectual disability	36674906	5p13 microduplication syndrome	Condition	SNOMED
intellectual disability	37395980	MORM syndrome	Condition	SNOMED
intellectual disability	36674735	Microcephalic primordial dwarfism Alazami type	Condition	SNOMED
intellectual disability	37396321	Harrod syndrome	Condition	SNOMED

intellectual disability	37111630	Short stature, unique facies, enamel hypoplasia, progressive joint stiffness, high-pitched voice syndrome	Condition	SNOMED
intellectual disability	37398922	Skeletal dysplasia with epilepsy and short stature syndrome	Condition	SNOMED
intellectual disability	36714548	Wilson Turner syndrome	Condition	SNOMED
intellectual disability	37396327	Goldblatt Wallis syndrome	Condition	SNOMED
intellectual disability	36714238	Microcephalus with brachydactyly and kyphoscoliosis syndrome	Condition	SNOMED
intellectual disability	36716462	Toriello Carey syndrome	Condition	SNOMED
intellectual disability	36717687	Pallister W syndrome	Condition	SNOMED
intellectual disability	36716139	Kapur Toriello syndrome	Condition	SNOMED
intellectual disability	37116407	Van den Bosch syndrome	Condition	SNOMED
intellectual disability	37110119	Kleefstra syndrome	Condition	SNOMED
intellectual disability	37111590	Caudal appendage deafness syndrome	Condition	SNOMED
intellectual disability	37111627	Central nervous system calcification, deafness, tubular acidosis, anemia syndrome	Condition	SNOMED
intellectual disability	36717046	Blepharonasofacial malformation syndrome	Condition	SNOMED
intellectual disability	36675714	Warburg micro syndrome	Condition	SNOMED
intellectual disability	36676440	CK syndrome	Condition	SNOMED
intellectual disability	36717424	Cystic leukoencephalopathy without megalencephaly	Condition	SNOMED
intellectual disability	35610125	Moderate intellectual development disorder with impairment of behaviour	Condition	SNOMED
intellectual disability	36717734	1p21.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	36715216	Contracture with ectodermal dysplasia and orofacial cleft syndrome	Condition	SNOMED
intellectual disability	37204408	Facial dysmorphism, developmental delay, behavioral abnormalities syndrome due to 10p11.21p12.31 microdeletion	Condition	SNOMED
intellectual disability	36680576	Temtamy preaxial brachydactyly syndrome	Condition	SNOMED
intellectual disability	36716187	Oro-facial digital syndrome type 5	Condition	SNOMED
intellectual disability	36716188	Oro-facial digital syndrome type 8	Condition	SNOMED
intellectual disability	37397118	Trisomy 10p	Condition	SNOMED
intellectual disability	36717698	Prieto Badia Mulas syndrome	Condition	SNOMED

intellectual disability	36675144	Developmental and speech delay due to SOX5 deficiency	Condition	SNOMED
intellectual disability	36676426	Spondyloepimetaphyseal dysplasia Genevieve type	Condition	SNOMED
intellectual disability	36674461	Piebald trait with neurologic defects syndrome	Condition	SNOMED
intellectual disability	36716109	Lowry MacLean syndrome	Condition	SNOMED
intellectual disability	37116355	Epilepsy telangiectasia syndrome	Condition	SNOMED
intellectual disability	4332239	Savant syndrome	Condition	SNOMED
intellectual disability	604335	14q32 deletion syndrome	Condition	SNOMED
intellectual disability	36675148	Autosomal recessive leukoencephalopathy, ischemic stroke, retinitis pigmentosa syndrome	Condition	SNOMED
intellectual disability	36716141	Macrocephaly, short stature, paraplegia syndrome	Condition	SNOMED
intellectual disability	4241107	Cutis laxa-corneal clouding-oligophrenia syndrome	Condition	SNOMED
intellectual disability	3654718	MASA syndrome	Condition	SNOMED
intellectual disability	37116365	Encephalopathy, intracerebral calcification, retinal degeneration syndrome	Condition	SNOMED
intellectual disability	36714240	Microcephalus cardiomyopathy syndrome	Condition	SNOMED
intellectual disability	36713733	Oro-facial digital syndrome type 9	Condition	SNOMED
intellectual disability	37110022	Psychomotor retardation due to S-adenosylhomocysteine hydrolase deficiency	Condition	SNOMED
intellectual disability	36676620	13q12.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	35610126	Mild intellectual development disorder without significant impairment of behaviour	Condition	SNOMED
intellectual disability	36717041	Goldberg Shprintzen megacolon syndrome	Condition	SNOMED
intellectual disability	36676584	14q24.1q24.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	37111328	CAMOS syndrome	Condition	SNOMED
intellectual disability	35610517	Intellectual development disorder without significant impairment of behaviour	Condition	SNOMED
intellectual disability	37116294	Spastic paraplegia with precocious puberty syndrome	Condition	SNOMED
intellectual disability	36716032	GAPO syndrome	Condition	SNOMED

intellectual disability	35610114	Profound intellectual development disorder without impairment of behaviour	Condition	SNOMED
intellectual disability	35610121	Severe intellectual development disorder with impairment of behaviour	Condition	SNOMED
intellectual disability	36714965	Cystic fibrosis with gastritis and megaloblastic anemia syndrome	Condition	SNOMED
intellectual disability	35610124	Moderate intellectual development disorder with minimal impairment of behaviour	Condition	SNOMED
intellectual disability	4334252	Laurence-Moon syndrome	Condition	SNOMED
intellectual disability	36716144	MEHMO syndrome	Condition	SNOMED
intellectual disability	36674907	11p15.4 microduplication syndrome	Condition	SNOMED
intellectual disability	37116389	Pseudoprogeria syndrome	Condition	SNOMED
intellectual disability	36715405	Short stature with webbed neck and congenital heart disease syndrome	Condition	SNOMED
intellectual disability	36675060	Polymicrogyria with optic nerve hypoplasia	Condition	SNOMED
intellectual disability	37118645	Dysmorphism, short stature, deafness, disorder of sex development syndrome	Condition	SNOMED
intellectual disability	37395832	C syndrome	Condition	SNOMED
intellectual disability	36674412	Ataxia, photosensitivity, short stature syndrome	Condition	SNOMED
intellectual disability	35622929	SCN8A-related epilepsy with encephalopathy	Condition	SNOMED
intellectual disability	36674944	Alopecia, progressive neurological defect, endocrinopathy syndrome	Condition	SNOMED
intellectual disability	37109594	Isodicentric chromosome 15 syndrome	Condition	SNOMED
intellectual disability	37311329	Woodhouse Sakati syndrome	Condition	SNOMED
intellectual disability	36674863	3q27.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	35625463	PURA syndrome	Condition	SNOMED
intellectual disability	36717093	19q13.11 microdeletion syndrome	Condition	SNOMED
intellectual disability	36714022	BSG syndrome	Condition	SNOMED
intellectual disability	35607962	Malan overgrowth syndrome	Condition	SNOMED
intellectual disability	37203915	Muscle eye brain disease with bilateral multicystic leukodystrophy	Condition	SNOMED
intellectual disability	36676719	Pitt Hopkins-like syndrome	Condition	SNOMED

intellectual disability	37204234	Congenital microcephaly, severe encephalopathy, progressive cerebral atrophy syndrome	Condition	SNOMED
intellectual disability	36715368	Hall Riggs syndrome	Condition	SNOMED
intellectual disability	4194065	Lowe syndrome	Condition	SNOMED
intellectual disability	36717192	Juberg Marsidi syndrome	Condition	SNOMED
intellectual disability	36715415	Deafness, genital anomaly, metacarpal and metatarsal synostosis syndrome	Condition	SNOMED
intellectual disability	36674869	Infantile cerebral and cerebellar atrophy with postnatal progressive microcephaly	Condition	SNOMED
intellectual disability	36674473	FBLN1-related developmental delay, central nervous system anomaly, syndactyly syndrome	Condition	SNOMED
intellectual disability	36676515	XYLT1-CDG - xylosyltransferase 1 congenital disorder of glycosylation	Condition	SNOMED
intellectual disability	4002097	Coffin-Siris syndrome	Condition	SNOMED
intellectual disability	35622315	Hypotonia, speech impairment, severe cognitive delay syndrome	Condition	SNOMED
intellectual disability	37118951	Microbrachycephaly, ptosis, cleft lip syndrome	Condition	SNOMED
intellectual disability	4030676	Prune belly syndrome with pulmonic stenosis, mental retardation and deafness	Condition	SNOMED
intellectual disability	35622377	Oro-facial digital syndrome type 14	Condition	SNOMED
intellectual disability	37110069	MOMO syndrome	Condition	SNOMED
intellectual disability	36674688	Autosomal recessive chorioretinopathy and microcephaly syndrome	Condition	SNOMED
intellectual disability	35608087	Microcephalus, cerebellar hypoplasia, cardiac conduction defect syndrome	Condition	SNOMED
intellectual disability	45765465	Partington syndrome	Condition	SNOMED
intellectual disability	36676501	Roifman syndrome	Condition	SNOMED
intellectual disability	619073	Mowat-Wilson syndrome due to monosomy 2q22	Condition	SNOMED
intellectual disability	37396989	L1 syndrome	Condition	SNOMED
intellectual disability	4121804	Hennekam syndrome	Condition	SNOMED
intellectual disability	36714637	Temtamy syndrome	Condition	SNOMED
intellectual disability	36675715	RAB18 deficiency	Condition	SNOMED
intellectual disability	35622250	Wiedemann Steiner syndrome	Condition	SNOMED
intellectual disability	37204292	Infantile spasms, psychomotor retardation, progressive brain atrophy, basal	Condition	SNOMED

		ganglia disease syndrome		
intellectual disability	36674192	2p13.2 microdeletion syndrome	Condition	SNOMED
intellectual disability	37396247	Karandikar Maria Kamble syndrome	Condition	SNOMED
intellectual disability	37118677	Microcephalus, glomerulonephritis, marfanoid habitus syndrome	Condition	SNOMED
intellectual disability	35608131	Diencephalic mesencephalic junction dysplasia	Condition	SNOMED
intellectual disability	36715334	Fountain syndrome	Condition	SNOMED
intellectual disability	36714526	Chromosome Xp11.3 microdeletion syndrome	Condition	SNOMED
intellectual disability	36717348	Scholte syndrome	Condition	SNOMED
intellectual disability	44783238	Ohdo syndrome, Maat-Kievit-Brunner type	Condition	SNOMED
intellectual disability	36716153	Oculopalatocerebral syndrome	Condition	SNOMED
intellectual disability	36715373	Oliver syndrome	Condition	SNOMED
intellectual disability	36717454	Ectodermal dysplasia with blindness syndrome	Condition	SNOMED
intellectual disability	36715092	Brachymorphism with onychodysplasia and dysphalangism syndrome	Condition	SNOMED
intellectual disability	37111018	Bullous dystrophy macular type	Condition	SNOMED
intellectual disability	37116379	Stimmler syndrome	Condition	SNOMED
intellectual disability	36716167	Oro-facial digital syndrome type 10	Condition	SNOMED
intellectual disability	37396271	GMS syndrome	Condition	SNOMED
intellectual disability	36714054	Pettigrew syndrome	Condition	SNOMED
Post traumatic brain injury	4132546	Traumatic brain injury	Condition	SNOMED
Post traumatic brain injury	4132082	Traumatic brain injury with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4132083	Traumatic brain injury with brief loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4133017	Traumatic brain injury with moderate loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4133018	Traumatic brain injury with prolonged loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4133715	Traumatic brain injury with no loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4182419	Late effect of traumatic injury to brain	Condition	SNOMED
Post traumatic brain injury	46270764	Traumatic brain injury of unknown intent	Condition	SNOMED
Post traumatic brain injury	4001336	Concussion injury of brain	Condition	SNOMED
Post traumatic brain injury	4234112	Brain injury without open intracranial wound	Condition	SNOMED

Post traumatic brain injury	4326435	Post-traumatic epilepsy	Condition	SNOMED
Post traumatic brain injury	443696	Brain stem laceration with open intracranial wound AND no loss of consciousness	Condition	SNOMED
Post traumatic brain injury	36716626	Focal laceration of cerebellum	Condition	SNOMED
Post traumatic brain injury	4193520	Laceration of brain	Condition	SNOMED
Post traumatic brain injury	3655960	Open fracture of vault of skull with cerebral laceration	Condition	SNOMED
Post traumatic brain injury	618758	Cerebral cortex laceration with concussion	Condition	SNOMED
Post traumatic brain injury	618761	Brain stem laceration with concussion	Condition	SNOMED
Post traumatic brain injury	4096615	Cortex laceration and contusion	Condition	SNOMED
Post traumatic brain injury	4167919	Falx laceration	Condition	SNOMED
Post traumatic brain injury	440560	Cerebellar laceration without open intracranial wound AND with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	762826	Post-traumatic epilepsy, refractory	Condition	SNOMED
Post traumatic brain injury	36716576	Multiple focal injuries of cerebellum	Condition	SNOMED
Post traumatic brain injury	443798	Brain stem contusion without open intracranial wound AND with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	375680	Brain stem contusion without open intracranial wound AND with concussion	Condition	SNOMED
Post traumatic brain injury	434190	Cerebellar contusion without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	3655961	Open fracture of vault of skull with cerebral contusion	Condition	SNOMED
Post traumatic brain injury	36716737	Contusion of cerebellum due to birth trauma	Condition	SNOMED
Post traumatic brain injury	432476	Cortex laceration with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	376552	Cerebral laceration and contusion	Condition	SNOMED
Post traumatic brain injury	36716575	Focal laceration of brainstem	Condition	SNOMED
Post traumatic brain injury	4047767	Encephalopathy due to radiation damage	Condition	SNOMED
Post traumatic brain injury	44784521	Post-traumatic dementia with behavioral change	Condition	SNOMED
Post traumatic brain injury	4235306	Repeated concussion	Condition	SNOMED

Post traumatic brain injury	440550	Cortex contusion with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	4034021	Contusion of cerebral cortex	Condition	SNOMED
Post traumatic brain injury	438590	Brain injury with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	3184859	Left temporal lobe contusion	Condition	Nebraska Lexicon
Post traumatic brain injury	618762	Brain stem laceration with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	378264	Open fracture of base of skull with cerebral laceration AND contusion	Condition	SNOMED
Post traumatic brain injury	444379	Cortex laceration with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	42538674	Injury of left visual cortex	Condition	SNOMED
Post traumatic brain injury	4098316	Dissociative convulsions	Condition	SNOMED
Post traumatic brain injury	444217	Brain stem laceration with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	42535731	Dementia following injury caused by exposure to ionizing radiation	Condition	SNOMED
Post traumatic brain injury	4208505	Traumatic cerebral edema with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	36686191	Contusion of right cerebrum	Condition	SNOMED
Post traumatic brain injury	4048796	Traumatic cerebral edema	Condition	SNOMED
Post traumatic brain injury	3663250	Contusion of cerebrum with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	434774	Cortex contusion with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	3655953	Contusion of hindbrain	Condition	SNOMED
Post traumatic brain injury	440868	Cortex contusion without open intracranial wound AND with concussion	Condition	SNOMED
Post traumatic brain injury	3186570	Frontal lobe contusion	Condition	Nebraska Lexicon
Post traumatic brain injury	4102446	Spastic paralysis due to intracranial birth injury	Condition	SNOMED
Post traumatic brain injury	4264035	Cerebral compression due to injury	Condition	SNOMED
Post traumatic brain injury	36716577	Focal injury of brainstem	Condition	SNOMED
Post traumatic brain injury	4033376	Hypopituitarism due to radiotherapy	Condition	SNOMED
Post traumatic brain injury	4016975	Hind brain laceration with open intracranial wound, with no loss of consciousness	Condition	SNOMED

Post traumatic brain injury	36715608	Diffuse injury of brainstem	Condition	SNOMED
Post traumatic brain injury	442114	Cortex laceration with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	602945	Necrosis of brain caused by exposure to ionizing radiation	Condition	SNOMED
Post traumatic brain injury	36716603	Radiation injury of brain caused by ionizing radiation following radiotherapy procedure	Condition	SNOMED
Post traumatic brain injury	36715609	Crush injury of brain	Condition	SNOMED
Post traumatic brain injury	4053307	Cerebral decompression injury	Condition	SNOMED
Post traumatic brain injury	4094846	Cerebellar laceration and contusion	Condition	SNOMED
Post traumatic brain injury	4309491	Injuries of brain and cranial nerves with injuries of nerves and spinal cord at neck level	Condition	SNOMED
Post traumatic brain injury	45766193	Hypoxic ischemic encephalopathy due to strangulation	Condition	SNOMED
Post traumatic brain injury	37311964	Focal brain laceration	Condition	SNOMED
Post traumatic brain injury	442762	Cerebellar laceration with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	434792	Cerebellar contusion without open intracranial wound AND with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	37311968	Focal brain contusion	Condition	SNOMED
Post traumatic brain injury	434506	Cerebellar contusion with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	40492393	Concussion injury of cerebrum	Condition	SNOMED
Post traumatic brain injury	4016974	Hind brain laceration with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	442595	Brain stem contusion with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	375671	Concussion with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	36716573	Focal non-hemorrhagic contusion of brainstem	Condition	SNOMED
Post traumatic brain injury	4095993	Laceration of cerebrum	Condition	SNOMED
Post traumatic brain injury	36715607	Diffuse injury of cerebellum	Condition	SNOMED
Post traumatic brain injury	36716568	Focal laceration of cerebrum	Condition	SNOMED
Post traumatic brain injury	4047745	Traumatic encephalopathy	Condition	SNOMED

Post traumatic brain injury	4133019	Cortex laceration	Condition	SNOMED
Post traumatic brain injury	444398	Brain stem laceration without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	4090535	Sunstroke	Condition	SNOMED
Post traumatic brain injury	4096616	Diffuse brain injury	Condition	SNOMED
Post traumatic brain injury	438588	Cortex contusion with open intracranial wound, with no loss of consciousness	Condition	SNOMED
Post traumatic brain injury	442318	Brain stem laceration with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	4046088	Punch drunk syndrome	Condition	SNOMED
Post traumatic brain injury	3655962	Open fracture of skull with cerebral contusion	Condition	SNOMED
Post traumatic brain injury	36686192	Contusion of left cerebrum	Condition	SNOMED
Post traumatic brain injury	36717223	Focal non-hemorrhagic contusion of cerebrum	Condition	SNOMED
Post traumatic brain injury	4094847	Contusion of cerebrum	Condition	SNOMED
Post traumatic brain injury	4096617	Traumatic focal cerebral edema	Condition	SNOMED
Post traumatic brain injury	44784467	Open fracture of vault of skull with concussion	Condition	SNOMED
Post traumatic brain injury	442280	Brain stem contusion without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	3663252	Contusion of hindbrain with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	4094848	Burst lobe of brain	Condition	SNOMED
Post traumatic brain injury	37311965	Focal contusion of temporal lobe	Condition	SNOMED
Post traumatic brain injury	4154699	Traumatic intracranial subdural hematoma with brief loss of consciousness	Condition	SNOMED
Post traumatic brain injury	44784466	Open fracture of vault of skull with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	37311966	Focal contusion of parietal lobe	Condition	SNOMED
Post traumatic brain injury	441702	Cerebellar contusion with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	435384	Cortex laceration with open intracranial wound, with no loss of consciousness	Condition	SNOMED
Post traumatic brain injury	618760	Cerebellar laceration with concussion	Condition	SNOMED
Post traumatic brain injury	4047907	Self-induced non-photosensitive epilepsy	Condition	SNOMED
Post traumatic brain injury	443799	Brain stem laceration with open intracranial	Condition	SNOMED

		wound AND loss of consciousness		
Post traumatic brain injury	372610	Postconcussion syndrome	Condition	SNOMED
Post traumatic brain injury	4131328	Hypothalamic injury	Condition	SNOMED
Post traumatic brain injury	435953	Cerebellar laceration with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	434197	Cerebellar laceration without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	377439	Visual cortex injury	Condition	SNOMED
Post traumatic brain injury	3655963	Open fracture of skull with cerebral laceration	Condition	SNOMED
Post traumatic brain injury	4208112	Laceration of brain without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	42537144	Injury of both visual cortices	Condition	SNOMED
Post traumatic brain injury	4095994	Traumatic generalized cerebral edema	Condition	SNOMED
Post traumatic brain injury	440858	Cortex contusion without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	36716540	Injury of brain stem due to birth trauma	Condition	SNOMED
Post traumatic brain injury	4146496	Contusion of brain	Condition	SNOMED
Post traumatic brain injury	378001	Concussion with no loss of consciousness	Condition	SNOMED
Post traumatic brain injury	432751	Cortex contusion with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	373056	Brain injury without open intracranial wound AND with concussion	Condition	SNOMED
Post traumatic brain injury	36716738	Contusion of brain due to birth trauma	Condition	SNOMED
Post traumatic brain injury	4297140	Concussion with mental confusion AND/OR disorientation without loss of consciousness	Condition	SNOMED
Post traumatic brain injury	444248	Brain stem contusion with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	442616	Brain stem contusion with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	604740	Hind brain laceration with open intracranial wound and loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4133716	Cerebellar laceration	Condition	SNOMED
Post traumatic brain injury	36715606	Diffuse injury of cerebrum	Condition	SNOMED
Post traumatic brain injury	440235	Cerebellar laceration with open intracranial	Condition	SNOMED

		wound AND no loss of consciousness		
Post traumatic brain injury	3179550	Cerebral dura mater laceration	Condition	Nebraska Lexicon
Post traumatic brain injury	4072639	Cerebellar decompression injury	Condition	SNOMED
Post traumatic brain injury	435681	Brain injury with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	4347416	Cerebral injury due to birth trauma	Condition	SNOMED
Post traumatic brain injury	439170	Cerebellar contusion with open intracranial wound AND concussion	Condition	SNOMED
Post traumatic brain injury	443931	Cerebellar contusion without open intracranial wound AND with concussion	Condition	SNOMED
Post traumatic brain injury	4236742	Contusion of brain without open intracranial wound	Condition	SNOMED
Post traumatic brain injury	4133020	Cerebellar contusion	Condition	SNOMED
Post traumatic brain injury	4170449	Cerebral trauma	Condition	SNOMED
Post traumatic brain injury	4048139	Cerebral edema due to birth injury	Condition	SNOMED
Post traumatic brain injury	4016540	Focal brain injury	Condition	SNOMED
Post traumatic brain injury	42538809	Injury of right visual cortex	Condition	SNOMED
Post traumatic brain injury	36716574	Focal traumatic hematoma of brainstem	Condition	SNOMED
Post traumatic brain injury	762827	Post-traumatic epilepsy, non-refractory	Condition	SNOMED
Post traumatic brain injury	444257	Cerebellar laceration with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4038534	Laceration of brain with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	4132548	Brain stem laceration	Condition	SNOMED
Post traumatic brain injury	36716572	Focal traumatic hematoma of cerebellum	Condition	SNOMED
Post traumatic brain injury	36716567	Focal hemorrhagic contusion of cerebrum	Condition	SNOMED
Post traumatic brain injury	4133021	Brain stem contusion	Condition	SNOMED
Post traumatic brain injury	36716570	Focal non-hemorrhagic contusion of cerebellum	Condition	SNOMED
Post traumatic brain injury	440551	Brain injury with open intracranial wound AND loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4019263	Concussion with less than 1 hour loss of consciousness	Condition	SNOMED

Post traumatic brain injury	433342	Cortex contusion without open intracranial wound AND with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	4222768	Contusion of brain with open intracranial wound	Condition	SNOMED
Post traumatic brain injury	36716569	Multiple focal injuries of cerebrum	Condition	SNOMED
Post traumatic brain injury	381978	Brain injury without open intracranial wound AND with loss of consciousness	Condition	SNOMED
Post traumatic brain injury	37311967	Focal contusion of occipital lobe	Condition	SNOMED