

## Report prepared by

Robert A. Angel

Jason Grago

Sarah C. Dean

Lixin Qu

Kathryn S. Carrier

Robert A. Hummer

Eric A. Whitsel

## Wave VI Survey Medications Use User Guide





CAROLINA POPULATION CENTER | CAROLINA SQUARE - SUITE 210 | 123 WEST FRANKLIN STREET | CHAPEL HILL, NC 27516

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This document summarizes the medication inventory conducted during the Wave VI survey. It also documents the protocol for assigning therapeutic classes to those medications. Whenever possible, the inventory and protocol in the Wave VI survey and at the home exam mirrored those of Wave V to ensure comparability of data within and between waves.

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#### 1. Introduction

Data on participant use of prescription medications were collected during the Wave VI survey. The collection procedure varied by sample / mode (Sample 1 web or in-person; Sample 2 in-person), which are described in Section 2 and fully detailed in the Wave VI documentation. The process for collecting the prescription medication data, therapeutically classifying the prescription medications, and structuring a file of the therapeutic classifications for dissemination to users is described below. Please note that data on select over-the-counter (aspirin-containing and non-steroidal anti-inflammatory) medications were not collected in the Wave VI survey. These data were only collected during the Wave VI home exam.

## 2. Collection of Prescription Medication Use Data

Prescription medication data were provided by participants during the web and in-person surveys. Participants who completed a web or in-person survey were asked to provide the names of all prescription medications used within the past four weeks. As medication names were typed on the screen (either by participants or interviewers), a look-up list of medications with identical or similar names was displayed on the screen. The look-up list was based on a medication information and classification database (Multum LexiconTM, Cerner Multum, Inc.; Denver, CO) created by excerpting all generic and brand names included in the most current quarterly update. The survey instruments were updated with new medication lists on a quarterly basis throughout the data collection period.

During the <u>web survey</u>, participants were instructed to select the correct medication name from the list. If the correct medication name did not appear on the screen, they were instructed to select the option "Name not on list", continue to the next screen, and then manually type the full name of the correct medication into a free-text data entry field. During the <u>in-person survey</u>, interviewers selected the correct medication name from the list. If the correct medication name did not appear on the screen, they manually typed the full name of the correct medication into a free-text data entry field. The web and inperson instruments were programmed to accommodate up to thirty medications per participant.

Web participants also self-reported whether they entered medication names from medication containers or from memory. In-person interviewers recorded whether participants provided medication containers or named medications from memory.

The questions which appeared in each mode are listed below:

#### **H6ID9**

We want to record all prescription medications that you have used in the past four weeks. These medications include solid and non-solid formulations that you may swallow, inhale, apply to the skin or hair, inject, implant, or place in the ears, eyes, nose, mouth, or any other part of the body. [If the participant reported their biological sex as female, then the following was added.] This also includes prescription birth control and any birth control implants such as Implanon or Nexplanon and intrauterine devices, or IUDs.

Have you taken any prescription medications in the past four weeks? 1=Yes 2=No

#### **H6ID10**

The next questions are about medications you have taken in the past 4 weeks. If you can get your medication bottles now, having those will make it easier for you to enter the name of the medication.

Did you get your bottles or containers for the medications you have taken in the past 4 weeks?

1=Yes

2=No

3=I have some of my bottles or containers, but not all

[The following MED269 questions looped through for up to 30 medications.]

#### **MED269**

What is the name of the medication?

Begin typing medication name. Select the medication name from the look up list. If you cannot find name, type "NAME NOT ON LIST" and select that option from the look up list.

## MED269\_oth

If MED269=NAME NOT ON LIST or text does not match dropdown list, then:

Type in the medication name:	

#### MED269\_container

[The following question was asked in the In-Person Interview only]
Interviewer: Did participant present this medication or its container during the interview?
1=Yes
2=No

## 3. Therapeutic Classification of Prescription Medications (H6SSET1 – H6SSET4)

In 2019, a contract allowing for therapeutic classification of the prescription medications in the look-up list using an updated version of the Multum Lexicon<sup>™</sup> (Cerner Multum, Inc.; Denver, CO) was executed. Of the 18,902 prescription medications reported by participants, 37 (< 1%) could <u>not</u> be automatically assigned to a therapeutic class using this database. A general internist and cardiovascular epidemiologist with expertise in medication classification manually assigned therapeutic classes to 20 of the 37 prescription medications using two on-line coding databases (Merative<sup>™</sup> Micromedex®; Merative; Ann Arbor, Michigan; www.micromedexsolutions.com and Facts And Comparisons®; Wolters Kluwer; Alphen aan den Rijn, Netherlands; www.wolterskluwer.com). The Wave VI medication file therefore contains the therapeutic class for 18,885 prescription medications (Appendix 1).

In the data file, the nine-digit therapeutic classification codes associated with each prescription medication include a hierarchical series of up to three, three-digit codes representing, from left to right, the (general) therapeutic class, the (more specific) therapeutic subclass, and (most specific) therapeutic subgroup. For example, a prescription medication coded 001-009-161 is in the anti-infective class, cephalosporins subclass, and third generation cephalosporins subgroup. A prescription medication coded 001-018-\*\*\* is in the anti-infective class and aminoglycosides subclass. In other words, three, right-sided asterisks (\*\*\*) in the nine-digit code indicate that subgrouping was impossible and six (\*\*\*-\*\*\*) indicate that both subclassification and subgrouping were impossible. A prescription medication coded 998-998-998 indicates that classification of the medication was impossible. A prescription medication coded 999-999-999 indicates that the participant reported taking prescription medication(s), but the specific medication(s) was not reported by the participant. Lastly, a prescription medication coded 996-996-996 indicates that the participant refused to report their medication(s).

Because the study did not collect indications for treatment and some prescription medications are used on- or off-label to treat a variety of conditions, each prescription medication may be associated with up to four unique, nine-digit therapeutic classification codes, i.e. Sets 1-4.

## 4. Key Therapeutic Classes of Prescription Medications

Use of a prescription medication in the past 4 weeks in one or more of the listed therapeutic classes was assigned a value of 1. Non-use of a prescription medication in the past four weeks in one of the listed therapeutic classes was assigned a value of 0. Therapeutically classified use of prescription medication in particular classes may confound biomarker-based estimates of disease prevalence or risk. For example, use of anti-hypertensive medications may confound blood pressure-based estimates of hypertension

prevalence or cardiovascular disease risk. However, the following (1,0) classifications should be used cautiously in the investigation or control of potential confounding, because selection biases often threaten the study of non-randomized medication exposures.<sup>2,3</sup>

## 4.1 Antihypertensive Medication Use (H6SAHT)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
040-042-***	Angiotensin converting enzyme (ACE) inhibitors	
040-043-***	Anti-adrenergic agents (peripherally acting)	
040-044-***	Anti-adrenergic agents (centrally acting)	
040-046-386	Beta-adrenergic blocking agents	
040-047-***		
040-046-388	Calcium channel blocking agents	
040-048-***		H6SAHT
040-049-156	Thiazide diuretics	
040-053-***	Vasodilators	
040-055-***	Antihypertensive Combinations	
040-056-***	Angiotensin II (AT2) inhibitors	
040-342-***	Renin inhibitors	
040-482-***	Angiotensin receptor blocker and neprilysin inhibitors	

## 4.2 Antihyperlipidemic Medication Use (H6SCMED2)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
358-019-***	Antihyperlipidemic agents	
358-019-173	HMG-CoA reductase inhibitors	
358-019-174	Miscellaneous antihyperlipidemic agents	
358-019-241	Fibric acid derivatives	HESCIMED 2
358-019-252	Bile acid sequestrants	H6SCMED2
358-019-316	Cholesterol absorption inhibitors	
358-019-317	Antihyperlipidemic combinations	
358-019-484	PCSK9 inhibitors	

## 4.3 Antidiabetic Medication Use (H6SCMED)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
358-099-***	Antidiabetic agents	
358-099-213	Sulfonylureas	
358-099-214	Non-sulfonylureas	
358-099-215	Insulin	
358-099-216	Alpha-glucosidase inhibitors	
358-099-271	Thiazolidinediones	
358-099-282	Meglitinides	H6SCMED
358-099-309	Miscellaneous antidiabetic agents	
358-099-314	Antidiabetic combinations	
358-099-371	Dipeptidyl peptidase 4 inhibitors	
358-099-372	Amylin analogs	
358-099-373	Incretin mimetics	
358-099-458	SGLT-2 inhibitors	

## 4.4 Anti-Inflammatory Medication Use (H6SCRP2 – H6SCRP8)

Participants used  $\geq 1$  medication identified by  $\geq 1$  of the following questions, coded therapeutic classes, or active ingredients (listed below):

<b>Question / Class</b>	Label	Variable	
057-058-061	NSAIDs past 4 weeks or		
057-058-062	Salicylate past 4 weeks or		
	Any oral medication that contains NSAID or	H6SCRP2	
	Salicylate as an active ingredient in a		
	combination medication past 4 weeks		
057-058-278	Cyclooxygenase-2 (COX-2) Inhibitor past 4 weeks	H6SCRP3	
122-130-296	Inhaled Corticosteroids past 4 weeks	H6SCRP4	
097-098-300	Corticotropin or	H6SCRP5	
097-098-301	Glucocorticoid past 4 weeks	ПОЗСКРЗ	
105-192-***	Antirheumatic or	H6SCRP6	
105-270-***	Antipsoriatic past 4 weeks	HOSCRPO	

254-104-***	Immunosuppressive agents	H6SCRP7
Any of the above	Any of the above anti-inflammatories	H6SCRP8

#### Active Ingredients:

#### **NSAIDS**

- Bromfenac
- Diclofenac
- Diflunisal
- Etodolac
- Fenoprofen
- Flurbiprofen
- Ibuprofen

- Indomethacin
- Ketoprofen
- Ketorolac
- Meclofenamate
- Mefenamic Acid
- Meloxicam
- Nabumetone

- Naproxen
- Oxaprozin
- Piroxicam
- Sulindac
- Tolmetin

#### **Salicylates**

- Aspirin
- Magnesium salicylate
- Salsalate

- Sodium salicylate
- Thiosalicylate

## 4.5 Narcotic Medication Use (H6SNARC)

Choline salicylate

Participants used  $\geq 1$  opioid-containing prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
057-058-060	Narcotic analgesics	
057-058-191	Narcotic analgesic combinations	
057-073-179	Skeletal muscle relaxant combinations	H6SNARC
122-124-***	Antitussives	
122-132-***	Upper respiratory combinations	

--and--

the prescription medication contained  $\geq 1$  of the following active ingredients:

- Alfentanil
- Codeine
- Fentanyl
- Buprenorphine
- Dezocine
- Hydrocodone
- Butorphanol
- Dihydrocodeine
- Hydromorphone

- Levomethadyl
- Methadone
- Oliceridine
- Oxymorphone
- Remifentanil
- Tramadol

- Levorphanol
- Morphine
- Opium
- Pentazocine
- Sufentanil

- Meperidine
- Nalbuphine
- Oxycodone
- Propoxyphene
  - Tapentadol

# 4.6 Antidepressant Medication Use (H6SADX, where X is defined below by the last 3 letters of the variable name)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
242-079-***	Psychotherapeutic combinations†	H6SADCMB
242-249-076	Miscellaneous antidepressants	H6SADMSC
242-249-208	Selective serotonin reuptake inhibitors	H6SADSRI
242-249-209	Tricyclic antidepressants	H6SADTRI
242-249-250	Monoamine oxidase inhibitors	H6SADMOI
242-249-306	Phenylpiperazine antidepressants	H6SADPHE
242-249-307	Tetracyclic antidepressants	H6SADTET
242-249-308	Selective serotonin norepinephrine reuptake	H6SADSNR
242 243 300	inhibitors	HOSADSINI
Any of the above	Any of the above antidepressants	H6SADANY

<sup>†</sup>Excluding the following medications:

Cobenfy

- Lybalvi
- Olanzapine-Samidorphan

Trospium-Xanomeline

## 4.7 Antipsychotic Medication Use (H6SAPS)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
242-079-***	Psychotherapeutic combinations†	
242-251-***	Antipsychotic agents	
242-251-077	Miscellaneous antipsychotic agents	H6SAPS
242-251-210	Phenothiazine antipsychotics	ПОЗАРЗ
242-251-280	Thioxanthenes	
242-251-341	Atypical antipsychotics	

<sup>†</sup>Excluding the following medications:

- Amitriptyline-Chlordiazepoxide
- Limbitrol

## 4.8 Anxiolytic, Sedative or Hypnotic Medication Use (H6SASH)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
057-067-***	Anxiolytic, sedative and hypnotic agents	
057-067-068	Barbiturates	
057-067-069	Benzodiazepines	H6SASH
057-067-070	Miscellaneous anxiolytics, sedatives and	
	hypnotics	

## 4.9 Anticonvulsant Medication Use (H6SACO)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
057-064-***	Anticonvulsant agents	
057-064-199	Hydantoin anticonvulsants	
057-064-200	Succinimide anticonvulsants	
057-064-201	Barbiturate anticonvulsants	H6SACO
057-064-202	Oxazolidinedione anticonvulsants	HOSACO
057-064-203	Benzodiazepine anticonvulsants	
057-064-204	Miscellaneous anticonvulsants	
057-064-311	Dibenzazepine anticonvulsants	

057-064-345	Fatty acid derivative anticonvulsants
057-064-346	Gamma-aminobutyric acid reuptake inhibitors
057-064-347	Gamma-aminobutyric acid analogs
057-064-348	Triazine anticonvulsants
057-064-349	Carbamate anticonvulsants
057-064-350	Pyrrolidine anticonvulsants
057-064-351	Carbonic anhydrase inhibitor anticonvulsants
057-064-352	Urea anticonvulsants
057-064-446	Neuronal potassium channel openers
057-064-456	α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
	(AMPA) receptor antagonists

## 4.10 Anorexiant and Antiobesity Medication Use (H6SAOA)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
057-253-***	Anorexiants	
358-099-214	Biguanides	
358-099-373	GLP-1 receptor agonists	
358-099-458	SGLT-2 inhibitors	LICCAGA
358-359-***	Peripherally acting antiobesity agents	- H6SAOA
	Any medication that contains one of the following	]
	biguanides, GLP-1 receptor agonists or SGLT-2 inhibitors	
	as an active ingredient	

## Active Ingredients:

#### **Biguanides**

• Metformin

#### **GLP-1 Receptor Agonists**

- Albiglutide
- Dulaglutide

• Exenatide

- Liraglutide
- Lixisenatide

Semaglutide

• Tirzepatide

## **SLGT-2 Inhibitors**

- Bexagliflozin
- Canagliflozin
- Dapagliflozin

- Empagliflozin
- Ertugliflozin

Sotagliflozin

## 4.11 Antiparkinson and Alzheimer's Disease Medication Use (H6SPKALZ)

Participants used  $\geq 1$  prescription medication in  $\geq 1$  of the following coded therapeutic classes:

Class	Label	Variable
057-066-***	Antiparkinson agents	
057-066-205	Anticholinergic antiparkinson agents (excluding medications containing diphenhydramine as the sole anticholinergic antiparkinson agent as an active ingredient)	
057-066-206	Miscellaneous antiparkinson agents	LICCDKALZ
057-066-276	Dopaminergic antiparkinsonism agents	H6SPKALZ
057-080-***	Miscellaneous central nervous system agents (containing an ergoloid mesylate, glutamate receptor antagonist, or amyloid-targeting monoclonal antibody as an active ingredient)	
057-313-***	Cholinesterase inhibitors	

#### Active Ingredients:

- Ergoloid mesylates
- Memantine
- Aducanumab

Lecanemab

Donanemab

## 5. Quality Control of the Prescription Medication Data

Of the 11,979 Add Health participants who completed the Wave VI survey, 6,073 also completed a home exam. Among 5,985 (98.6%) of them, prescription medication use was inventoried twice (during the Wave VI survey *and* home exam), albeit using somewhat different methods administered on average (95% confidence interval [CI]) 4.4 (4.3, 4.5) months apart. Nonetheless, the agreement (95% CI) between therapeutic classifications was 66% (65%-67%) and kappa coefficient (95% CI) was 0.70 (0.68-0.72). The observations suggest that within Add Health Wave VI, prescription medication data are comparable across the survey and home exam.

## 6. The Medication Data File (svymeds6)

#### 6.1 Hierarchical Structure

The structure of the disseminated medication data file is hierarchical. This means that it is a medication-level data file, where each therapeutically classified prescription medication appears in the data as a single

observation. Therefore, if a participant reported taking more than one medication, the participant identifier (AID variable) will appear in the data file more than once. Alternatively, the participant identifier will appear in the data file just one time on a single observation if: (a) the participant reported using just one medication, (b) the participant reported not taking any medications, (c) the participant refused to answer the specific medication question, (d) the participant skipped reporting their medications, or (e) the participant was not asked the prescription medication question.

## 6.2 Participant-Level Overview of Medication Use

Given the complex hierarchical structure of the data file, this section provides an overview, **at the participant-level**, of the medications reported by the participants:

Of the 11,979 participants who participated in the survey, 6,498 (54.2%) took prescription medications, 5,279 (44.1%) took no medications, and 202 (1.7%) skipped the prescription medication question.

Of the 6,498 participants who took prescription medications, 6,178 (95.1%) took from 1 to 30 prescription medications, and 320 (4.9%) did not report their prescription medications.

#### 6.3 The Variables

The medication data file includes the variables below, which are described in the corresponding codebook documentation that also contains frequencies. Please note, however, that the frequencies reported in the codebook are at the medication-level and **not** at the participant-level.

Variable Name	Variable Label
AID	Participant Identifier
H6ID9	Take Any Prescription Medication in the past 4 weeks (S4Q37)
H6SSET1 – H6SSET4	Therapeutic Classification – Set #1 – #4
H6SAHT	Antihypertensive
H6SCMED2	Antihyperlipidemic
H6SCMED	Antidiabetic
H6SCRP2	CRP - NSAID/salicylate (4 weeks)
H6SCRP3	CRP - Cox-2 inhibitor
H6SCRP4	CRP - Inhaled corticosteroid
H6SCRP5	CRP - Corticotropin/Glucocorticoid
H6SCRP6	CRP - Antirheumatic/Antipsoriatic
H6SCRP7	CRP - Immunosuppressive
H6SCRP8	Anti-Inflammatory
H6SNARC	Narcotic
H6SADCMB	AD - Psychotherapeutic combinations
H6SADMSC	AD - Miscellaneous
H6SADSRI	AD - Selective serotonin reuptake inhibitors

H6SADTRI AD - Tricyclic

H6SADMOI AD - Monoamine oxidase inhibitors

H6SADPHE AD - Phenylpiperazine

H6SADTET AD - Tetracyclic

H6SADSNR AD - Selective serotonin norepinephrine reuptake inhibitors

H6SADANY Antidepressant H6SAPS Antipsychotic

H6SASH Anxiolytic/Sedative/Hypnotic

H6SACO Anticonvulsant

H6SAOA Anorexiant/Antiobesity agent
H6SPKALZ Antiparkinson/Alzheimer's disease

H6STMEDS # of Prescription Medications inventoried

Given all of the former complexities, Add Health users possessing no to little prior experience working with medication data are strongly advised to collaborate with a health care professional familiar with the challenges and pitfalls associated with doing so.

## 7. References

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## Appendix 1

Table. Therapeutic Classification Codes		
Code	Name	
001	anti-infectives	
002	amebicides	
003	anthelmintics	
004	antifungals	
005	antimalarial agents	
006	antituberculosis agents	
007	antiviral agents	
008	carbapenems	
009	cephalosporins	
010	leprostatics	
011	macrolide derivatives	
012	miscellaneous antibiotics	
013	penicillins	
014	quinolones	
015	sulfonamides	
016	tetracyclines	
017	urinary anti-infectives	
018	aminoglycosides	
019	antihyperlipidemic agents	
020	antineoplastics	
021	alkylating agents	
022	antineoplastic antibiotics	
023	antimetabolites	
024	antineoplastic hormones	
025	miscellaneous antineoplastics	
026	mitotic inhibitors	
027	radiopharmaceuticals	
028	biologicals	
030	antitoxins and antivenins	
031	bacterial vaccines	
032	colony stimulating factors	
033	immune globulins	
034	in vivo diagnostic biologicals	
036	erythropoiesis-stimulating agents	
038	viral vaccines	
040	cardiovascular agents	
041	agents for hypertensive emergencies	
042	angiotensin converting enzyme (ACE) inhibitors	
043	antiadrenergic agents, peripherally acting	
044	antiadrenergic agents, centrally acting	
045	antianginal agents	

Table.	Therapeutic Classification Codes
Code	Name
046	antiarrhythmic agents
047	beta-adrenergic blocking agents
048	calcium channel blocking agents
049	diuretics
050	inotropic agents
051	miscellaneous cardiovascular agents
052	peripheral vasodilators
053	vasodilators
054	vasopressors
055	antihypertensive combinations
056	angiotensin II inhibitors
057	central nervous system agents
058	analgesics
059	miscellaneous analgesics
060	narcotic analgesics
061	nonsteroidal anti-inflammatory agents
062	salicylates
063	analgesic combinations
064	anticonvulsants
065	antiemetic/antivertigo agents
066	antiparkinson agents
067	anxiolytics, sedatives, and hypnotics
068	barbiturates
069	benzodiazepines
070	miscellaneous anxiolytics, sedatives and hypnotics
071	CNS stimulants
072	general anesthetics
073	muscle relaxants
074	neuromuscular blocking agents
076	miscellaneous antidepressants
077	miscellaneous antipsychotic agents
079	psychotherapeutic combinations
080	miscellaneous central nervous system agents
081	coagulation modifiers
082	anticoagulants
083	antiplatelet agents
084	heparin antagonists
085	miscellaneous coagulation modifiers
086	thrombolytics
087	gastrointestinal agents
088	antacids
089	anticholinergics/antispasmodics
090	antidiarrheals
091	digestive enzymes

Table.	Therapeutic Classification Codes
Code	Name
092	gallstone solubilizing agents
093	GI stimulants
094	H2 antagonists
095	laxatives
096	miscellaneous GI agents
097	hormones/hormone modifiers
098	adrenal cortical steroids
099	antidiabetic agents
100	miscellaneous hormones
101	sex hormones
102	contraceptives
103	thyroid hormones
104	immunosuppressive agents
105	miscellaneous agents
106	antidotes
107	chelating agents
108	cholinergic muscle stimulants
109	local injectable anesthetics
110	miscellaneous uncategorized agents
111	psoralens
112	radiocontrast agents
113	genitourinary tract agents
115	nutritional products
116	iron products
117	minerals and electrolytes
118	oral nutritional supplements
119	vitamins
120	vitamin and mineral combinations
121	intravenous nutritional products
122	respiratory agents
123	antihistamines
124	antitussives
125	bronchodilators
126	methylxanthines
127	decongestants
128	expectorants
129	miscellaneous respiratory agents
130	respiratory inhalant products
131	antiasthmatic combinations
132	upper respiratory combinations
133	topical agents
134	anorectal preparations
135	antiseptic and germicides
136	dermatological agents

Table.	Therapeutic Classification Codes
Code	Name
137	topical anti-infectives
138	topical steroids
139	topical anesthetics
140	miscellaneous topical agents
141	topical steroids with anti-infectives
143	topical acne agents
144	topical antipsoriatics
146	mouth and throat products
147	ophthalmic preparations
148	otic preparations
149	spermicides
150	sterile irrigating solutions
151	vaginal preparations
153	plasma expanders
154	loop diuretics
155	potassium-sparing diuretics
156	thiazide and thiazide-like diuretics
157	carbonic anhydrase inhibitors
158	miscellaneous diuretics
159	first generation cephalosporins
160	second generation cephalosporins
161	third generation cephalosporins
162	fourth generation cephalosporins
163	ophthalmic anti-infectives
164	ophthalmic glaucoma agents
165	ophthalmic steroids
166	ophthalmic steroids with anti-infectives
167	ophthalmic anti-inflammatory agents
168	ophthalmic lubricants and irrigations
169	miscellaneous ophthalmic agents
170	otic anti-infectives
171	otic steroids with anti-infectives
172	miscellaneous otic agents
173	HMG-CoA reductase inhibitors (statins)
174	miscellaneous antihyperlipidemic agents
175	protease inhibitors
176	NRTIS
177	miscellaneous antivirals
178	skeletal muscle relaxants
179	skeletal muscle relaxant combinations
180	adrenergic bronchodilators
181	bronchodilator combinations
182	androgens and anabolic steroids
183	estrogens

Table. Therapeutic Classification Codes		
Code	Name	
184	gonadotropins	
185	progestins	
186	sex hormone combinations	
187	miscellaneous sex hormones	
191	narcotic analgesic combinations	
192	antirheumatics	
193	antimigraine agents	
194	antigout agents	
195	5HT3 receptor antagonists	
196	phenothiazine antiemetics	
197	anticholinergic antiemetics	
198	miscellaneous antiemetics	
199	hydantoin anticonvulsants	
200	succinimide anticonvulsants	
201	barbiturate anticonvulsants	
202	oxazolidinedione anticonvulsants	
203	benzodiazepine anticonvulsants	
204	miscellaneous anticonvulsants	
205	anticholinergic antiparkinson agents	
206	miscellaneous antiparkinson agents	
208	SSRI antidepressants	
209	tricyclic antidepressants	
210	phenothiazine antipsychotics	
211	platelet aggregation inhibitors	
212	glycoprotein platelet inhibitors	
213	sulfonylureas	
214	biguanides	
215	insulin	
216	alpha-glucosidase inhibitors	
217	bisphosphonates	
218	alternative medicines	
219	nutraceutical products	
220	herbal products	
222	penicillinase resistant penicillins	
223	antipseudomonal penicillins	
224	aminopenicillins	
225	penicillins/beta-lactamase inhibitors	
226	natural penicillins	
227	NNRTIS	
228	adamantane antivirals	
229	purine nucleosides	
230	aminosalicylates	
231	thiocarbamide derivatives	
232	rifamycin derivatives	

Table.	Table. Therapeutic Classification Codes		
Code	Name		
233	streptomyces derivatives		
234	miscellaneous antituberculosis agents		
235	polyenes		
236	azole antifungals		
237	miscellaneous antifungals		
238	antimalarial quinolines		
239	miscellaneous antimalarials		
240	lincomycin derivatives		
241	fibric acid derivatives		
242	psychotherapeutic agents		
243	leukotriene modifiers		
244	nasal lubricants and irrigations		
245	nasal steroids		
246	nasal antihistamines and decongestants		
247	nasal preparations		
248	topical emollients		
249	antidepressants		
250	monoamine oxidase inhibitors		
251	antipsychotics		
252	bile acid sequestrants		
253	anorexiants		
254	immunologic agents		
256	interferons		
261	heparins		
262	coumarins and indanediones		
263	erectile dysfunction agents		
264	urinary antispasmodics		
265	urinary pH modifiers		
266	miscellaneous genitourinary tract agents		
267	ophthalmic antihistamines and decongestants		
268	vaginal anti-infectives		
269	miscellaneous vaginal agents		
270	antipsoriatics		
271	thiazolidinediones		
272	proton pump inhibitors		
273	lung surfactants		
274	beta blockers, cardioselective		
275	beta blockers, non-cardioselective		
276	dopaminergic antiparkinsonism agents		
277	5-aminosalicylates		
278	cox-2 inhibitors		
279	gonadotropin-releasing hormone and analogs		
280	thioxanthenes		
281	neuraminidase inhibitors		

Table.	Therapeutic Classification Codes
Code	Name
282	meglitinides
283	thrombin inhibitors
284	viscosupplementation agents
285	factor Xa inhibitors
286	mydriatics
287	ophthalmic anesthetics
288	5-alpha-reductase inhibitors
289	antihyperuricemic agents
290	topical antibiotics
291	topical antivirals
292	topical antifungals
293	glucose elevating agents
295	growth hormones
296	inhaled corticosteroids
297	mucolytics
298	mast cell stabilizers
299	anticholinergic bronchodilators
300	corticotropin
301	glucocorticoids
302	mineralocorticoids
303	agents for pulmonary hypertension
304	macrolides
305	ketolides
306	phenylpiperazine antidepressants
307	tetracyclic antidepressants
308	SSNRI antidepressants
309	miscellaneous antidiabetic agents
310	echinocandins
311	dibenzazepine anticonvulsants
312	cholinergic agonists
313	cholinesterase inhibitors
314	antidiabetic combinations
315	glycylcyclines
316	cholesterol absorption inhibitors
317	antihyperlipidemic combinations
318	insulin-like growth factor
319	vasopressin antagonists
320	smoking cessation agents
321	ophthalmic diagnostic agents
322	ophthalmic surgical agents
324	antineoplastic interferons
325	sclerosing agents
327	antiviral combinations
328	antimalarial combinations
320	aaidi idi oomomadons

Table.	Therapeutic Classification Codes
Code	Name
329	antituberculosis combinations
330	antiviral interferons
332	radiologic adjuncts
333	miscellaneous iodinated contrast media
334	lymphatic staining agents
335	magnetic resonance imaging contrast media
336	non-iodinated contrast media
337	ultrasound contrast media
338	diagnostic radiopharmaceuticals
339	therapeutic radiopharmaceuticals
340	aldosterone receptor antagonists
341	atypical antipsychotics
342	renin inhibitors
345	fatty acid derivative anticonvulsants
346	gamma-aminobutyric acid reuptake inhibitors
347	gamma-aminobutyric acid analogs
348	triazine anticonvulsants
349	carbamate anticonvulsants
350	pyrrolidine anticonvulsants
351	carbonic anhydrase inhibitor anticonvulsants
352	urea anticonvulsants
353	anti-angiogenic ophthalmic agents
354	H. pylori eradication agents
355	functional bowel disorder agents
356	serotoninergic neuroenteric modulators
357	growth hormone receptor blockers
358	metabolic agents
359	peripherally acting antiobesity agents
360	lysosomal enzymes
361	miscellaneous metabolic agents
362	chloride channel activators
363	probiotics
364	antiviral chemokine receptor antagonist
366	integrase strand transfer inhibitor
368	non-ionic iodinated contrast media
369	ionic iodinated contrast media
370	otic steroids
371	dipeptidyl peptidase 4 inhibitors
372	amylin analogs
373	GLP-1 receptor agonists
374	cardiac stressing agents
375	peripheral opioid receptor antagonists
376	radiologic conjugating agents
377	prolactin inhibitors

Table.	Therapeutic Classification Codes
Code	Name
378	drugs used in alcohol dependence
379	fifth generation cephalosporins
380	topical debriding agents
381	topical depigmenting agents
382	topical antihistamines
383	antineoplastic detoxifying agents
384	platelet-stimulating agents
385	group I antiarrhythmics
386	group II antiarrhythmics
387	group III antiarrhythmics
388	group IV antiarrhythmics
389	group V antiarrhythmics
390	hematopoietic stem cell mobilizer
392	otic anesthetics
393	cerumenolytics
394	topical astringents
395	topical keratolytics
397	multikinase inhibitors
398	BCR-ABL tyrosine kinase inhibitors
399	CD52 monoclonal antibodies
400	CD33 monoclonal antibodies
401	CD20 monoclonal antibodies
402	VEGF/VEGFR inhibitors
403	mTOR inhibitors
404	EGFR inhibitors
405	HER2 inhibitors
406	glycopeptide antibiotics
407	inhaled anti-infectives
408	histone deacetylase inhibitors
409	bone resorption inhibitors
410	adrenal corticosteroid inhibitors
411	calcitonin
412	uterotonic agents
413	antigonadotropic agents
414	antidiuretic hormones
415	miscellaneous bone resorption inhibitors
416	somatostatin and somatostatin analogs
417	selective estrogen receptor modulators
418	parathyroid hormone and analogs
419	gonadotropin-releasing hormone antagonists
420	antiandrogens
422	antithyroid agents
423	aromatase inhibitors
424	estrogen receptor antagonists

Table. Therapeutic Classification Codes		
Code	Name	
426	synthetic ovulation stimulants	
427	tocolytic agents	
428	progesterone receptor modulators	
430	anticholinergic chronotropic agents	
431	anti-CTLA-4 monoclonal antibodies	
432	vaccine combinations	
433	catecholamines	
435	selective phosphodiesterase-4 inhibitors	
437	immunostimulants	
438	interleukins	
439	other immunostimulants	
440	therapeutic vaccines	
441	calcineurin inhibitors	
442	TNF alpha inhibitors	
443	interleukin inhibitors	
444	selective immunosuppressants	
445	other immunosuppressants	
446	neuronal potassium channel openers	
447	CD30 monoclonal antibodies	
448	topical non-steroidal anti-inflammatories	
449	hedgehog pathway inhibitors	
450	topical antineoplastics	
451	topical photochemotherapeutics	
452	CFTR modulators	
453	topical rubefacient	
454	proteasome inhibitors	
455	guanylate cyclase-C agonists	
456	AMPA receptor antagonists	
457	hydrazide derivatives	
458	SGLT-2 inhibitors	
459	urea cycle disorder agents	
460	phosphate binders	
461	topical anti-rosacea agents	
462	allergenics	
463	protease-activated receptor-1 antagonists	
464	miscellaneous diagnostic dyes	
465	diarylquinolines	
467	ACE inhibitors with thiazides	
468	antiadrenergic agents (central) with thiazides	
469	antiadrenergic agents (central) with thiazides	
470	miscellaneous antihypertensive combinations	
472	beta blockers with thiazides	
473	angiotensin II inhibitors with thiazides	
475	potassium sparing diuretics with thiazides	
7/3	potassiam sparing diaretics with thiddiaes	

Table.	Therapeutic Classification Codes
Code	Name
476	ACE inhibitors with calcium channel blocking agents
479	angiotensin II inhibitors with calcium channel blockers
480	antiviral boosters
481	NK1 receptor antagonists
482	angiotensin receptor blockers and neprilysin inhibitors
484	PCSK9 inhibitors
485	NS5A inhibitors
486	oxazolidinone antibiotics
487	CFTR combinations
488	anticoagulant reversal agents
489	CD38 monoclonal antibodies
490	peripheral opioid receptor mixed agonists/antagonists
491	local injectable anesthetics with corticosteroids
492	cephalosporins/beta-lactamase inhibitors
493	anti-PD-1 monoclonal antibodies
494	PARP inhibitors
495	calcimimetics
496	VMAT2 inhibitors
497	cation exchange resins
498	antineoplastic combinations
499	carbapenems/beta-lactamase inhibitors
500	PI3K inhibitors
501	CDK 4/6 inhibitors
502	CGRP inhibitors
503	streptogramins
504	antimanic agents
505	transthyretin stabilizers
507	malignancy photosensitizers
508	NHE3 inhibitors
509	BTK inhibitors
510	miscellaneous erythropoiesis agents
512	melanocortin receptor agonists
514	hereditary angioedema agents
515	peripheral opioid receptor agonists
516	noradrenergic uptake inhibitors for ADHD
517	CD19 monoclonal antibodies
518	other cephalosporins
519	alpha-adrenoreceptor antagonists
520	bispecific antibodies
521	bispecific T-cell engagers (BiTE)
522	miscellaneous bispecific antibodies
523	monobactams
526	antiviral monoclonal antibodies

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