Clinical Data Analysis

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Data Description

After the database connecting, reformating and creating new summary variable by unique ID(patient), we get a finaldata includes the personal information, past diagnose(both in and out hospital) and prescription recording.

FINALDATA have 5871 obeservations and 12 variables

- **uniqueID** - patient ID unique for each patient
- **Sex** - gender for each patient
- **Birthdate**- Birthdat of each patient with format(mm/dd/yyyy)
- **race** - race of paitients including Asian/Black/Native American/Pacific Islander/Unknown/White
- **martital_status** - martital_status of patients(Divorced/Married/Other/Separated/Single/Widowed)
- **income_braket** - income of patients ($<$20,000/$>$ 120,000/20,000 to $<$40,000/40,000 to $<$80,000/80,000 to 120,000/Missing/Refuse to Respond)
- **Age** - age of patient(round to 2 decimals)
- **Agecat** - age category(younger/older)
- **A1** - Indicator of whether an individual has chronic condition A1 prior to 2015
- **DiseaseX** - Indicator of whether an individual has been diagnosed with disease X
- **WE_indicator** - Indicator of receipt of prescription WE any time during 2015 and 2016 for those with chronic condition A1 prior to 2015 (A1 created above)
- **WE_6_M** - Indicator of receipt of WE longer than 6 months.

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We can see the detail of the final data(head&tail) as follows.

Table 1: First 5 observations of the FINALDATA

uniqueID	sex	BirthDate	race	marital_status	income_bracket	Age	Agecat	A1
1000086	Male	10/13/1947	Black	Married	20,000 to $<$40,000	50.91	older	0
1000189	Male	11/28/1954	White	Divorced	80,000 to 120,000	59.71	older	0
1002653	Male	01/13/1969	Black	Divorced	Missing	35.79	younger	0
1003091	Male	06/19/1961	Native American	Married	80,000 to 120,000	39.15	younger	0
1004796	Male	09/14/1957	White	Married	$>$ 120,000	46.84	younger	1

Table 2: Last 5 observations of the FINALDATA

	uniqueID	sex	BirthDate	race	marital_status	income_bracket	Age	Agecat	A1
5867	9987005	Male	02/22/1951	Asian	Single	40,000 to $<$80,000	57.68	older	0
5868	9987534	Male	02/06/1932	Unknown	Divorced	20,000 to $<$40,000	83.88	older	0
5869	9993792	Male	11/25/1948	White	Widowed	20,000 to $<$40,000	65.50	older	0
5870	9998976	Male	06/24/1956	White	Separated	Refuse to Respond	59.27	older	1
5871	9999216	Male	12/25/1948	White	Single	Refuse to Respond	65.49	older	1

Table 3: A table with the frequency distribution of sex in FINAL-DATA

sex	freqency
Female	287
Male	5584

Table 4: A table with the frequency distribution of race in FINAL-DATA

race	freqency
Asian	333
Black	1530
Native American	318
Pacific Islander	341
Unknown	855
White	2494

Table 5: A table with the frequency distribution of marital_status in FINALDATA

| marital status	freqency
Divorced	1168
Married	2451
Other	358
Separated	611
Single	641
Widowed	642

Table 6: A table with the frequency distribution of income_bracket in FINALDATA

income bracket	freqency
<20,000	1443
> 120,000	324
20,000 to <40,000	1426
40,000 to <80,000	863
80,000 to 120,000	603
Missing	587
Refuse to Respond	625

Table 7: A table with the frequency distribution of Agecat in FINALDATA

age category	freqency
older	3542

age category	freqency
younger	2329

Distribution of Age in Final data
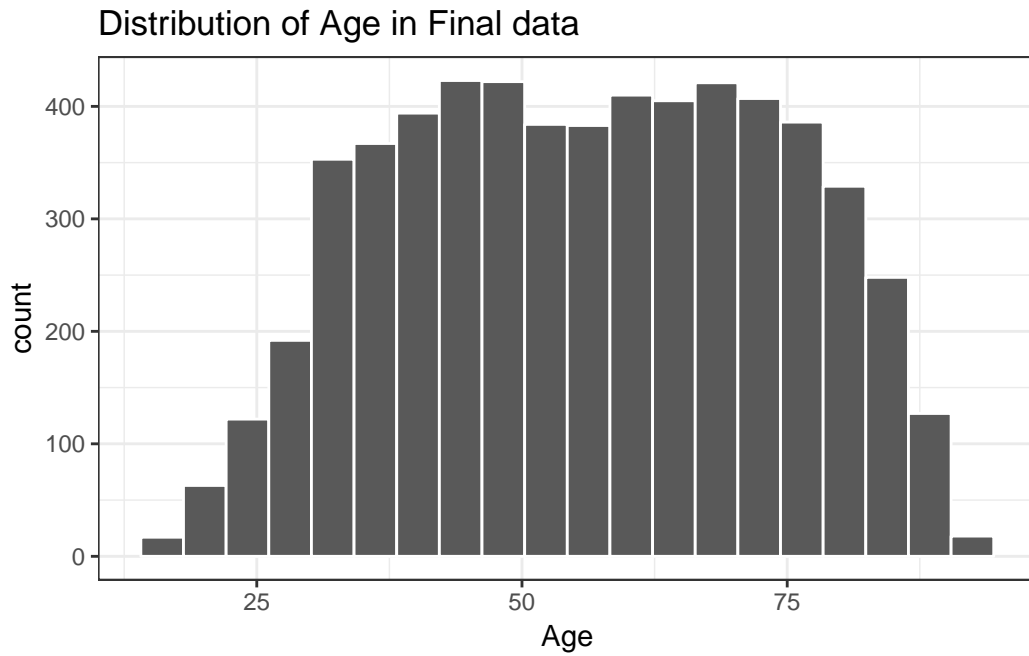
B

The proportion of individuals in the cohort had chronic condition A1 prior to 2015 is 33.09 %.

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Table 8: age distribution of chronic condition A1 in this population

	older	younger
No chronic condition A1	2288	1640
chronic condition A1	1254	689

D

proportion of individuals have disease X is 66.16 %.

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Table 9: gender distribution of disease X in the population

	Female	Male
No DiseaseX	91	1896
Have DiseaseX	196	3688

F

The proportion of individuals classified as having chronic condition A1 prior to 2015,received a prescription

for WE (medication name) during the 2015 and 2016 calendar years is 53.83 %.

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Table 10: the breakdown by race of individuals classified as having chronic condition A1 prior to 2015 and received a prescription for WE (medication name) during the 2015 and 2016 calendar years

	Yes(WE& DieaseA1)	No(WE& DieaseA1)
Asian	272	61
Black	1256	274
Native American	266	52
Pacific Islander	270	71
Unknown	691	164
White	2070	424

H

proportion of individuals classified as having chronic condition A1 prior to 2015 receiving a prescription for WE (medication name) during the 2015 and 2016 calendar years would be covered longer than 6-month over this time frame is 29.18 %.