

# DIABETES AND THE HEART

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STP 315

FINAL PROJECT



#### **STEPS I TOOK**

- CREATED A SAS FILE TO CALL TO MACROS TO PREPARE OUTPUT OF INELIG PATIENTS, THEN USED THAT FILE TO MERGE WITH ELIGILIBITY, DOLLAR, S AND STEP2. THIS CREATED A NEW OUTPUT CALLED PATIENT\_ELIG
- USED PATIENT\_ELIG TO FIND PROC MEANS FOR AVG TOTAL PAY OF PAITENTS
- COMPARED DATA WITH EXCEL FILE OF AA
- THEN LATER CREATED A REGRESSION OUTPUT FROM THE WORK.PAID OUTPUT. THIS ALLOWED ME TO SEE ALL THE DISEASES.
- FOUND MY MODEL AND FILLED UP THE OUTPUT EXCEL MANUALLY

Stepwise Selection Summary										
Step	Effect Entered	Effect Removed	Number Effects In	SBC						
0	Intercept		1	132322.969						
1	CARM		2	116284.559						
2	CARVH		3	106683.190						
3	CARL		4	102150.906						
4	INFL		5	99656.786						
5	DIA2L		6	98445.084						
6	DIA2M		7	96719.650						
7	DIA1M		8	95531.482						
8	DIA1H		9	94836.383						
9	INFH		10	94556.797						
10	CAREL		11	94474.740						
11	a_65		12	94444.692*						
* Optimal Value of Criterion										

## THE EFFECT OF DISEASES AND AGE

With the GLM Select our goal is to choose the SBC (Schwarz Bayesian Criterion) with the smallest value. We see that it suggests a\_65, and CAREL as the most likely association.

I wanted to know if Cardiovascular, and diabetes has a role in infectious rate.

CDDC							Durantellaur
CDPS 🖵		ACU	WIH_C -	RX_C -	WIHRX_C -	*	Prevelen
a_45_64m	45<=age<65 male	0.066	0.069	-0.023	-0.023	394360	4.46%
a_45_64f	45<=age<65 female	0.107	0.103	-0.004	-0.014	722744	8.17%
a_65	65<=age	0.087	0.086	-0.013	-0.019	18469	0.21%
CARVH	Cardiovascular, very high	7.467	7.791	8.514	8.990	6896	0.08%
CARM	Cardiovascular, medium	1.551	1.607	1.728	1.813	77725	0.88%
CARL	Cardiovascular, low	0.849	0.867	0.941	0.971	294787	3.33%
CAREL	Cardiovascular, extra low	0.231	0.236	0.140	0.142	733753	8.29%
DIA1H	Diabetes, type 1 high	0.952	0.990	0.710	0.746	3479	0.04%
DIA1M	Diabetes, type 1 medium	0.952	0.990	0.710	0.746	105014	1.19%
DIA2M	Diabetes, type 2 medium	0.464	0.480	0.252	0.262	30450	0.34%
DIA2L	Diabetes, type 2 low	0.464	0.480	0.252	0.262	291111	3.29%
INFH	Infectious, high	2.538	2.621	1.962	2.055	3263	0.04%
INFL	Infectious, low	0.304	0.301	0.327	0.324	108248	1.22%
R-squared		0.345	0.338	0.319	0.313		
PMPM		371	351	295	275		

## WEIGHTS COMPARISON

	AE OE EO PMER a b c d Woight SM a wat b wat c wa								d wat
	u	b	L	u	weighi_3/w	a_wgi	b_wgi	c_wgi	a_wgr
VARIADLE									
_ADJRSQ_	•	•	•	•	0.31	•	•	•	•
Intercept	22,000	28,000	13,000	41,302	0.26	5,720.00	7,280.00	3,380.00	10,738.52
45<=age<65 male	1,404	757	375	1,086	0	-	-	-	-
45<=age<65 female	1,314	6,022	2,876	7,923	0.01	13.14	60.22	28.76	79.23
65<=age	18,442	3,200	1,502	4,163	-0.08	(1,475.36)	(256.00)	(120.16)	(333.04)
Cardiovascular, very	195	282	127	377	4.69	914.55	1,322.58	595.63	1,763.13
high							$\sim$		
Cardiovascular, medium	964	1,211	606	1,627	1.74	1,677.36	2,107.14	1,054.44	2,830.98
Cardiovascular, low	5,752	7,243	3,478	10,898	0.58	3,336.16	4,200.94	2,017.24	6,320.84
Cardiovascular, extra low	3,458	4,261	1,990	6,160	0.15	518.70	639.15	298.50	\$24.00
Diabetes, type 1 high	131	190	94	247	1.63	213.53	309.70	153.22	402.61
Diabetes, type 1 medium	943	1,269	567	1,729	0.87	820.41	1,104.03	493.29	1,504.23
Diabetes, type 2 medium	1,256	1,611	752	2,380	1.03	1,293.68	1,659.33	774.56	2,451.40
Diabetes, type 2 low	4,371	5,385	2,504	8,178	0.67	2,928.57	3,607.95	1,677.68	5,479.26
Infectious, high	8	11	10	12	4.21	33.68	46.31	42.10	50.52
Infectious, low	96	125	54	170	3.65	350.40	456.25	197.10	620.50



### HEALTH PLAN RESULTS

FROM LEFT TO RIGHT IT HEALTH PLANS AB,C,AND D.

I WANTED TO FIND OUT BASED ON THE VARIABLES I CHOSE WHICH HEALTH PLAN WAS BEST SUITED FOR PATIENT NEEDS, OR WOULD SAVE THE MOST MONEY FOR OUR COMPANY.

HEALTH PLAN A IS OUR CHOICE

SumWgts=	16344.82	22537.6	10592.36	32837.18	\$ 82,311.96
Population=	22000	28000	13000	41302	\$ 104,302.00
HMO Average:	0.74	0.80	0.81	0.80	0.79
HMO Rel Wgt=	0.94	1.02	1.03	1.01	
Cap Payment= \$	371.47	\$ 402.46	\$ 407.40	\$ 397.53	
\$ 394.58					

#### STATISTICAL ANALYSIS

After observing and comparing various weights, prevalence of conditions, while comparing them to national weights. I have found there a low correlation with older age groups (45+) in conjunction with cardiovascular, diabetes, and infection rate.

Further analysis would need to be done for other disease types and possibly younger age groups could be done to determine additional affects of disease.