Sample Market Analysis

Below is a compilation of unrelated market analyses done over many years.

The results are from at least ten very different market analyses.

No effort was made to make the results consistent.

The purpose is to demonstrate tools used to analyze market data.

The results have been anonymized.

Example Target Marketing

- Profile customers that make multiple purchases
- Identify new customers likely to make multiple purchases

Customer List and External Databases

Customers with multiple purchases

- 100,000 records in the customer list
- Assign 1 to customers with multiple purchases and 0 to customers with less than 2 purchases.
- 30% (30,000) current client customers have multiple purchases.
- Create comparative graphical and tabular analyses of multiple purchasers vs. single purchases.

Match customer list with the universe of data sources and add over 50 characteristics

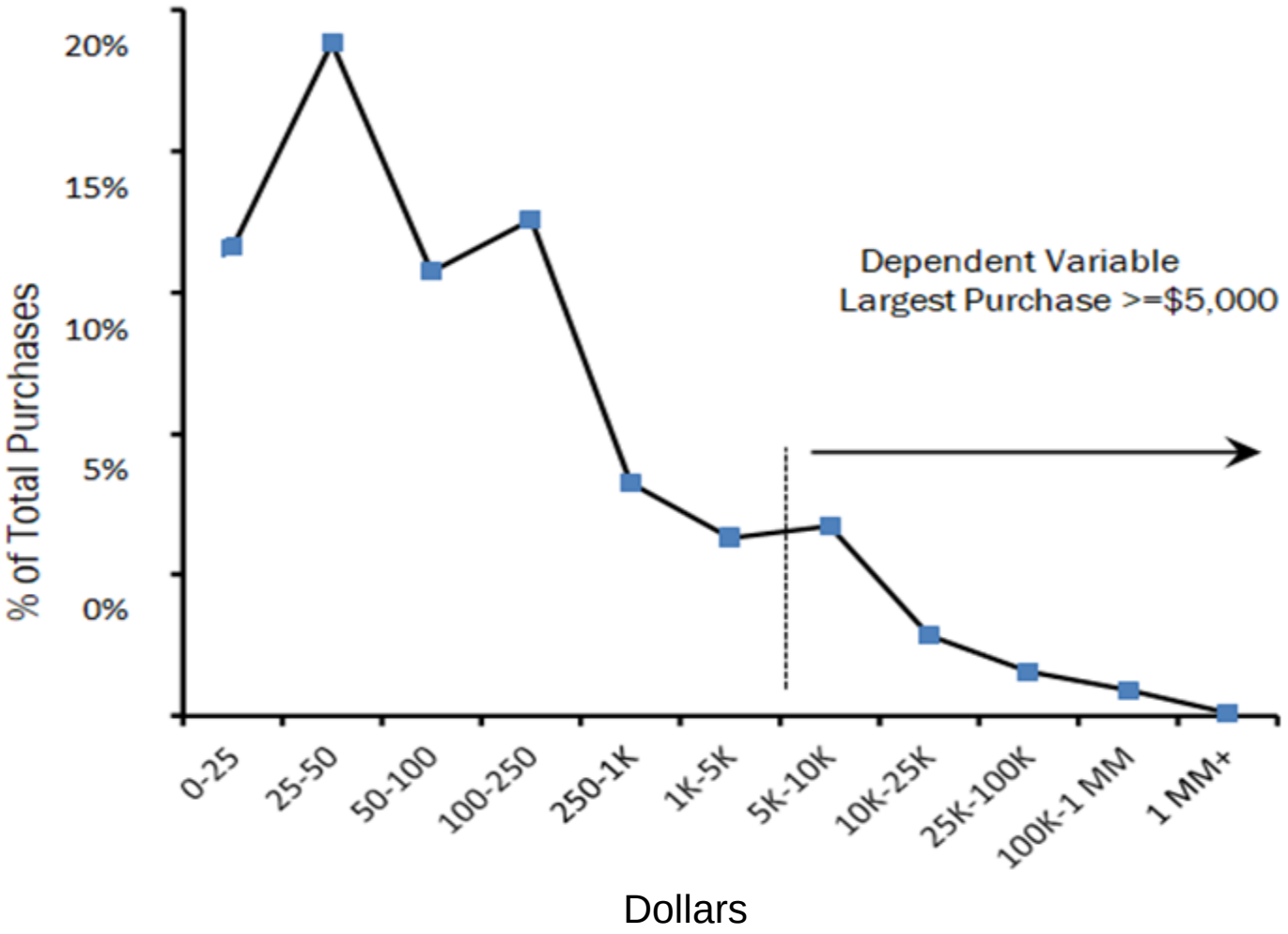
- Match the 100,000 customer list to the 1,000,000 records in universe of data sources
- An 80% match rate yields 80,000 customer records with 50+ variables.
- Income, age, gender, real estate holdings, stocks, occupation….
- Model the probability of multiple purchases using the 50 added variables on the customer list.
- Apply the model to the one million universe of data sources, identify new customers email and snail mail.
- List the thousands of new customers with a probability greater than 90% for multiple purchases.

Modeling Process

Model Design	Data	Model Build	Model Results	Delivery Repeat Runs
• Understanding Client Goals • Defining Dependent Variable(s) • Determining Analytic Approach	• Aggregating Data Sources • Creating Build & Validation Samples	• Chi-Square • • Variable Selection • Final Variable Selection	• Segmentation • Fit Assessment & Lift Charts • Model Validation	• Scoring Algorithm(s) • Implementation Recommendations

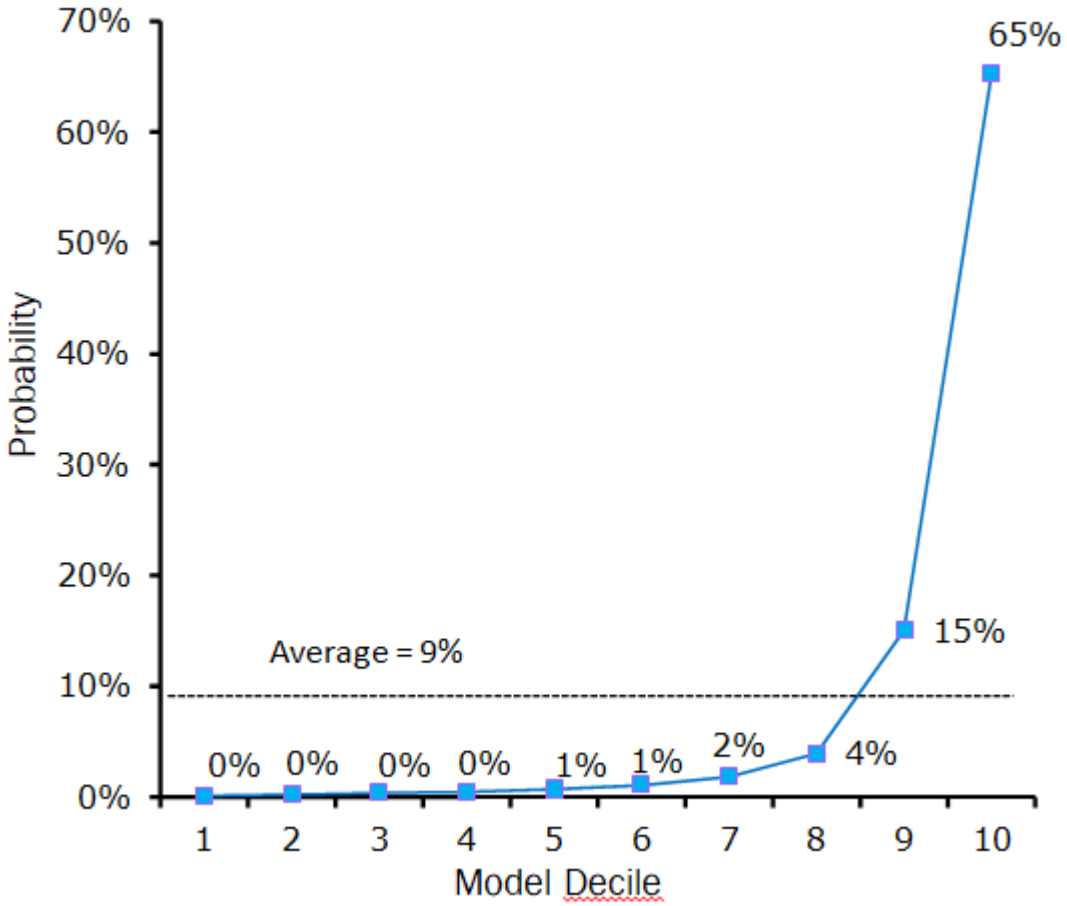
Example Graphical Analysis

Percent of Total Annual Purchase Amount by Purchase Ranges



After applying the model to the 1,000,000 universe

The 8,000 new customers in the top decile have a 65% probability of multiple purchases
On average only 9% of the 100,000 customer list have multiple purchases.



Example tabular analysis

Example Gains Chart the 2001 customers in the 10th decile are 6.5 times more likely to make multiple purchases then the overall average 2,68%
The 2002 in decile 10 are a combination of current customers and potential new customers.
Only 347 of the 2001 were current customers with more then one purchase.

Decile	Decile Count	Cumulative Decile Count	Responders	Cumulative Responder Count	Responder Percent of Total Response	Cumulative Responder Percent Total Response	Responder Percent of Decile Total	Cumulative Responder Percent of Decile Total	Index
10	2,001	2,001	347	347	64.74%	64.74%	17.34%	17.34%	6.48
9	2,002	4,003	87	434	16.23%	80.97%	4.35%	10.84%	1.62
8	2,002	6,005	32	466	5.97%	86.94%	1.6%	7.76%	0.6
7	2,002	8,007	14	480	2.61%	89.55%	0.7%	5.99%	0.26
6	2,002	10,009	16	496	2.99%	92.54%	0.8%	4.96%	0.3
5	2,002	12,011	15	511	2.8%	95.34%	0.75%	4.25%	0.28
4	2,002	14,013	5	516	0.93%	96.27%	0.25%	3.68%	0.09
3	2,002	16,015	18	534	3.36%	99.63%	0.9%	3.33%	0.34
2	2,002	18,017	2	536	0.37%	100%	0.1%	2.97%	0.04
1	2,002	20,019	0	536	0%	100%	0%	2.68%	0

Overall Response Rate
=2.68% (536/20,019)

Selected Model Variables and Contibution to Decile 10 Top Probability

Variable	Description	Contribution to Score
Age	Age in Year	31%
Gender	Male/Female	17%
Income	Annual income in dollard	12%
Real Estate	In Hundreds of Thousands	11%
Time on File	Time between first gift date and last gift date	10%
Eduacation	Years of Education	10%
Dun and Bradstreet	Indicator if constituent is an owner of a business listed in the Dun & Bradstreet database	9%

536 customers had purchases or $1,000 Dollars or More

Purchase Amount	Number of Customers	Percent at or Above Purchase Amount
$100+	4,311	21.53%
$200+	1,799	8.99%
$300+	1,146	5.72%
$500+	916	4.58%
$501+	674	3.37%
$1,000+	536	2.68%
$1,001+	299	1.49%
$2,500+	143	0.71%
$5,000+	66	0.33%
$10,000+	31	0.15%
$15,000+	14	0.07%
$20,000+	13	0.06%
$25,000+	12	0.06%
$50,000+	10	0.05%
$100,000+	5	0.02%
$500,000+	0	0.00%
$1,000,000+	0	0.00%
$5,000,000+	0	0.00%

Purchases at or above $5,000 account for 53.4% of the total annual purchases

Purchase Level	Number Pushases	Percent of File Total Purchases	Amount of Purchases
$100,000+	5	32.8%	$1,206,243
$50,000+	10	40.3%	$1,481,655
$25,000+	12	42.3%	$1,556,685
$20,000+	13	42.9%	$1,577,685
$15,000+	14	43.3%	$1,592,685
$10,000+	31	47.9%	$1,762,811
$5,000+	66	53.4%	$1,964,827
$2,500+	143	60.0%	$2,206,592
$1,001+	299	66.8%	$2,457,782
$1,000+	536	73.3%	$2,694,782
$501+	674	75.8%	$2,788,995
$500+	916	79.1%	$2,909,995
$300+	1146	81.3%	$2,991,403
$200+	1799	85.5%	$3,143,866
$100+	4311	92.8%	$3,413,898
$50+	6369	95.8%	$3,524,385
$20+	11229	99.2%	$3,647,796
$10+	13483	99.9%	$3,673,246

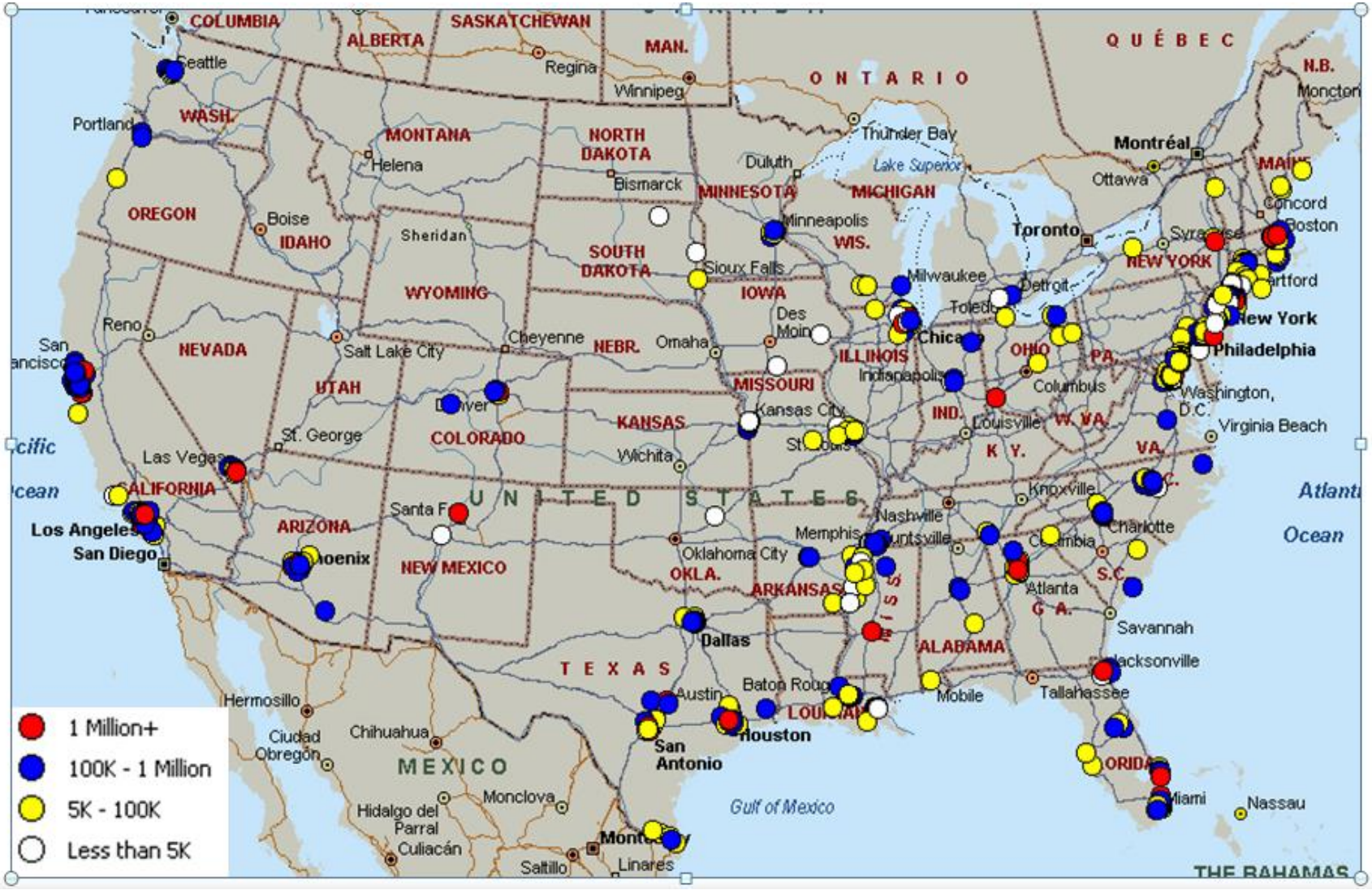
No collinearity in selected variables

Variable	r > ,t,	Variance Inflation
WINDEX	<.0001	1.49841
CANCALL	<.0001	1.29273
AGEBIN	<.0001	1.33563
DEMENTIA	<.0001	1.20243
AGE_CHF	<.0001	1.36299
SEX	<.0001	1.02710

Logistic Model Beta's positive signs are easy to explain effects

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
INTERCEPT	-7.2768	0.048	23026	<.0001
_WINDEX	0.6049	0.00567	11368	<.0001
_CANCALL	0.564	0.00275	42006	<.0001
_AGEBIN	0.0755	0.000558	18276	<.0001
_DEMENTIA	0.8094	0.00585	19141	<.0001
_AGE_CHF	0.4446	0.0069	4154	<.0001
_SEX	1.5901	0.0456	1216	<.0001

Decile 10 Prospects



Customers and prospects with highest scores, greater than 80% probability of multiple purchases.
Primary key is customer ID

Primary Key	Response	Score	Total Purchases	Real Estate	Charitible Contributions	Years in Business	Dun & Bradstreet Company Value	Retired	Time on File	Registered Business
5447	0	0.985	New Customer	$1,000,000-$4,999,999	$14,193	6	$9,326,533	Y	40,290	Y
70489	1	0.978	$15,000	$1,000,000-$4,999,999	$365,247	6	$130,298	Y	5,401	N
350115	1	0.966	$1,125	$1,000,000-$4,999,999	$34,869	19	$152,227	Y	1,454	N
304081	1	0.959	$2,191	$1,000,000-$4,999,999	$108,700	6	$22,000	N	4,302	Y
7288	1	0.959	$2,599,951	$1,000,000-$4,999,999	$33,217	30	$17,000	N	40,290	N
7306	0	0.959	$575	$1,000,000-$4,999,999	$15,275	7	$27,800	N	8,647	N
6400	1	0.944	$55,359	$500,000-$999,999	$45,275	59	$1,860,000	Y	6,407	Y
1338	1	0.944	$15,705	$500,000-$999,999	$11,251	12	$33,496,800	Y	9,494	Y
2977	1	0.923	$1,380	$50,000-$99,999	$11,862	12	$2,962,000	Y	8,318	Y
7271	0	0.923	$145	$50,000-$99,999	$30,409	6	$5,538,400	Y	40,290	Y

Levels with the Highest Indices

Patients with metastatic cancer and dementia are 3.5 times as likely to die within a year

Buckets with the Greatest Response

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
DIE	1<=DIE<=1	246503	0	246503	5.221	100.00%
METACANC_DEMENTIA	1<=METACANC_DEMENTIA<=1	3577	1728	5305	3.521	67.43%
METACANC_CHF	1<=METACANC_CHF<=1	7133	3950	11083	3.360	64.36%
METACANC_REND	1<=METACANC_REND<=1	7655	4517	12172	3.284	62.89%
METACANC	1<=METACANC<=1	36920	22590	59510	3.239	62.04%
METACANC_AGE	3<=METACANC_AGE<=106	36920	22590	59510	3.239	62.04%
DEMENTIA_CANC	1<=DEMENTIA_CANC<=1	10645	10172	20817	2.670	51.14%
CANC_CHF	1<=CANC_CHF<=1	17397	19627	37024	2.453	46.99%
AGE_CANC	68<=AGE_CANC<=108	59369	71657	131026	2.366	45.31%
CANC_REND	1<=CANC_REND<=1	17179	20775	37954	2.363	45.26%
CANC	1<=CANC<=1	71509	90569	162078	2.304	44.12%
MSLD	1<=MSLD<=1	6996	9104	16100	2.269	43.45%
AMI_CANC	1<=AMI_CANC<=1	7055	9453	16508	2.231	42.74%
DEMENTIA_CHF	1<=DEMENTIA_CHF<=1	30072	43071	73143	2.147	41.11%
AGE_CANC	3<=AGE_CANC<=67	12140	18912	31052	2.041	39.10%
DEMENTIA_REND	1<=DEMENTIA_REND<=1	25688	40064	65752	2.040	39.07%
AGE_CHF	84<=AGE_CHF<=113	47228	77697	124925	1.974	37.81%
WINDEX	4<=WINDEX<=4	97640	173559	271199	1.880	36.00%
WINDEXFMT	>=5 (97640, 271199, 36.0%)	97640	173559	271199	1.880	36.00%
DEMENTIA	1<=DEMENTIA<=1	84017	156583	240600	1.823	34.92%
INDEX	4<=INDEX<=4	34815	65084	99899	1.820	34.85%
INDEXFMT	>=5 (34815, 99899, 34.9%)	34815	65084	99899	1.820	34.85%
AGE_REND	81<=AGE_REND<=113	43380	85401	128781	1.759	33.69%
WSCORE	4<=WSCORE<=22	125395	265902	391297	1.673	32.05%
SCORE	4<=SCORE<=11	68800	146595	215395	1.668	31.94%
CHF_REND	1<=CHF_REND<=1	47484	102417	149901	1.654	31.68%

Buckets with the Greatest Response

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
AMI_CHF	1<=AMI_CHF<=1	24017	58337	82354	1.523	29.16%
CHF	1<=CHF<=1	95060	241615	336675	1.474	28.23%
CEVD	1<=CEVD<=1	49133	133220	182353	1.407	26.94%
INDEX	3<=INDEX<=3	82117	225346	307463	1.395	26.71%
INDEXFMT	3-4 (82117, 307463, 26.7%)	82117	225346	307463	1.395	26.71%
AGE	76<=AGE<=115	168931	483286	652217	1.352	25.90%
REND	1<=REND<=1	77463	222256	299719	1.349	25.85%
STATE	GU (50, 207, 24.2%)
HI (789, 3014, 26.2%)
OR (2973, 12323, 24.1%)
PR (1309, 4461, 29.3%)	5121	14884	20005	1.337	25.60%
MLD	1<=MLD<=1	12848	37470	50318	1.333	25.53%
HP	1<=HP<=1	11257	32885	44142	1.332	25.50%
AGE_CHF	70<=AGE_CHF<=83	33960	101187	135147	1.312	25.13%
SCORE	3<=SCORE<=3	48132	143835	191967	1.309	25.07%
AMI_REND	65<=AMI_REND<=113	31674	96217	127891	1.293	24.77%
PVD	1<=PVD<=1	41355	131703	173058	1.248	23.90%
AMI	1<=AMI<=1	34622	112807	147429	1.226	23.48%
AGE_REND	65<=AGE_REND<=80	27627	99971	127598	1.131	21.65%
WINDEX	3<=WINDEX<=3	61355	222060	283415	1.130	21.65%
WINDEXFMT	3-4 (61355, 283415, 21.6%)	61355	222060	283415	1.130	21.65%
STATE	AS (5, 22, 22.7%)
AZ (4945, 21840, 22.6%)
OH (10852, 50728, 21.4%)
PA (11643, 54760, 21.3%)
WI (4767, 22050, 21.6%)	32212	117188	149400	1.126	21.56%
COPD	1<=COPD<=1	81063	295932	376995	1.123	21.50%
PUD	1<=PUD<=1	6241	24030	30271	1.076	20.62%
WSCORE	3<=WSCORE<=3	33600	129717	163317	1.074	20.57%
SCORE	2<=SCORE<=2	59133	231011	290144	1.064	20.38%
SEX	M (113952, 561755, 20.3%)	113952	447803	561755	1.059	20.28%

Buckets with the Greatest Response

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
STATE	CA (21228, 105608, 20.1%)
CO (3142, 15318, 20.5%)
GA (6935, 34427, 20.1%)
IA (3013, 14968, 20.1%)
ID (1219, 5956, 20.5%)
NC (8250, 41146, 20.1%)	60394	238633	299027	1.055	20.20%
RACE_CD	1 (200924, 1009092, 19.9%)	200924	808168	1009092	1.040	19.91%
DIAB	0<=DIAB<=0	178830	734051	912881	1.023	19.59%
DIABWC	0<=DIABWC<=0	219311	913383	1132694	1.011	19.36%
RHEUMD	0<=RHEUMD<=0	237697	993770	1231467	1.008	19.30%
AIDS	0<=AIDS<=0	245893	1037342	1283235	1.001	19.16%
PUD	0<=PUD<=0	240262	1016551	1256813	0.998	19.12%
METACANC_DEMENTIA	0<=METACANC_DEMENTIA<=0	242926	1038853	1281779	0.990	18.95%
HP	0<=HP<=0	235246	1007696	1242942	0.988	18.93%
MLD	0<=MLD<=0	233655	1003111	1236766	0.986	18.89%
AMI_CANC	0<=AMI_CANC<=0	239448	1031128	1270576	0.984	18.85%
MSLD	0<=MSLD<=0	239507	1031477	1270984	0.984	18.84%
STATE	AR (3019, 15801, 19.1%)
CT (2929, 15678, 18.7%)
FL (18710, 97653, 19.2%)
IN (5813, 30001, 19.4%)
KS (2598, 14024, 18.5%)
KY (4253, 22284, 19.1%)	85148	367035	452183	0.983	18.83%
METACANC_CHF	0<=METACANC_CHF<=0	239370	1036631	1276001	0.979	18.76%
METACANC_REND	0<=METACANC_REND<=0	238848	1036064	1274912	0.978	18.73%
DEMENTIA_CANC	0<=DEMENTIA_CANC<=0	235858	1030409	1266267	0.973	18.63%
AMI	0<=AMI<=0	211881	927774	1139655	0.971	18.59%
AMI_REND	0<=AMI_REND<=0	211881	927774	1139655	0.971	18.59%
AMI_CHF	0<=AMI_CHF<=0	222486	982244	1204730	0.964	18.47%
PVD	0<=PVD<=0	205148	908878	1114026	0.962	18.42%
CANC_REND	0<=CANC_REND<=0	229324	1019806	1249130	0.959	18.36%
CANC_CHF	0<=CANC_CHF<=0	229106	1020954	1250060	0.957	18.33%
INDEX	2<=INDEX<=2	118987	531660	650647	0.955	18.29%

Buckets with the Greatest Response

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
INDEXFMT	1-2 (118987, 650647, 18.3%)	118987	531660	650647	0.955	18.29%
SEX	F (132551, 725329, 18.3%)	132551	592778	725329	0.954	18.27%
COPD	0<=COPD<=0	165440	744649	910089	0.949	18.18%
AGE_CHF	7<=AGE_CHF<=69	13872	62731	76603	0.946	18.11%
DEMENTIA_REND	0<=DEMENTIA_REND<=0	220815	1000517	1221332	0.944	18.08%
DIAB	1<=DIAB<=1	67673	306530	374203	0.944	18.08%
CEVD	0<=CEVD<=0	197370	907361	1104731	0.933	17.87%
DEMENTIA_CHF	0<=DEMENTIA_CHF<=0	216431	997510	1213941	0.931	17.83%
DIABWC	1<=DIABWC<=1	27192	127198	154390	0.920	17.61%
CHF_REND	0<=CHF_REND<=0	199019	938164	1137183	0.914	17.50%
WSCORE	2<=WSCORE<=2	40165	189596	229761	0.913	17.48%
STATE	(49, 312, 15.7%)
AK (289, 1899, 15.2%)
AL (4801, 26814, 17.9%)
DC (431, 2434, 17.7%)
DE (896, 5246, 17.1%)
IL (9999, 57550, 17.4%)
LA (3867,	63628	302841	366469	0.906	17.36%
RACE_CD	3 (1300, 7694, 16.9%)
4 (4371, 24982, 17.5%)
5 (14472, 83716, 17.3%)	20143	96249	116392	0.904	17.31%
AGE_REND	0<=AGE_REND<=0	169041	818326	987367	0.894	17.12%
REND	0<=REND<=0	169040	818325	987365	0.894	17.12%
METACANC	0<=METACANC<=0	209583	1017991	1227574	0.891	17.07%
METACANC_AGE	0<=METACANC_AGE<=0	209583	1017991	1227574	0.891	17.07%
SCORE	1<=SCORE<=1	59854	300649	360503	0.867	16.60%
RACE_CD	2 (23308, 144312, 16.2%)
6 (1229, 7851, 15.7%)	24537	127626	152163	0.842	16.13%
AGE_CHF	0<=AGE_CHF<=0	151443	798966	950409	0.832	15.93%
CHF	0<=CHF<=0	151443	798966	950409	0.832	15.93%
AIDS	1<=AIDS<=1	610	3239	3849	0.827	15.85%
RHEUMD	1<=RHEUMD<=1	8806	46811	55617	0.827	15.83%
AGE	73<=AGE<=75	18508	99189	117697	0.821	15.73%

Buckets with the Greatest Response

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
AGE_CANC	0<=AGE_CANC<=0	174994	950012	1125006	0.812	15.55%
CANC	0<=CANC<=0	174994	950012	1125006	0.812	15.55%
DEMENTIA	0<=DEMENTIA<=0	162486	883998	1046484	0.811	15.53%

Chi Square and Index Analysis of Character Variables

Patients with a Charlson index of 5 or more ar 1.88 times as likely to die within a year

Response Decile from Low to High	Variable	Similar Deceased Levels	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
								Bucketed Unweighted Charlson Index INDEXFMT
1	INDEXFMT	0 (10584, 229075, 4.6%)	10584	218491	229075	17.80%	0.24	4.62%
2		1-2 (118987, 650647, 18.3%)	118987	531660	650647	50.55%	0.95	18.29%
3		3-4 (82117, 307463, 26.7%)	82117	225346	307463	23.89%	1.39	26.71%
4		>=5 (34815, 99899, 34.9%)	34815	65084	99899	7.76%	1.82	34.85%
			246503	*1040581*	1287084			
								RACE_CD
1	RACE_CD	0 (899, 9437, 9.5%)	899	8538	9437	0.73%	0.50	9.53%
2		2 (23308, 144312, 16.2%)	24537	127626	152163	11.82%	0.84	16.13%
		6 (1229, 7851, 15.7%)						
3		3 (1300, 7694, 16.9%)	20143	96249	116392	9.04%	0.90	17.31%
		4 (4371, 24982, 17.5%)						
		5 (14472, 83716, 17.3%)						
4		1 (200924, 1009092, 19.9%)	200924	808168	1009092	78.40%	1.04	19.91%
			246503	*1040581*	1287084			
								SEX
1	SEX	F (132551, 725329, 18.3%)	132551	592778	725329	56.35%	0.95	18.27%
2		M (113952, 561755, 20.3%)	113952	447803	561755	43.65%	1.06	20.28%
			246503	*1040581*	1287084			
								STATE

Response Decile from Low to	Variable	Similar Deceased	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
1	STATE	(49, 312, 15.7%)	63628	302841	366469	28.47%	0.91	17.36%
	AK	(289, 1899, 15.2%)						
	AL	(4801, 26814, 17.9%)						
	DC	(431, 2434, 17.7%)						
	DE	(896, 5246, 17.1%)						
	IL	(9999, 57550, 17.4%)						
	LA	(3867, 21819, 17.7%)						
	MA	(5324, 32608, 16.3%)						
	MD	(4465, 25990, 17.2%)						
	MS	(3084, 18290, 16.9%)						
	ND	(548, 3361, 16.3%)						
	NH	(1221, 7048, 17.3%)						
	OK	(3668, 21365, 17.2%)						
	SD	(733, 4298, 17.1%)						
	TX	(17028, 96629, 17.6%)						
	VA	(6200, 34876, 17.8%)						
	VT	(593, 3351, 17.7%)						
	WY	(432, 2579, 16.8%)						
2	AR	(3019, 15801, 19.1%)	85148	367035	452183	35.13%	0.98	18.83%
	CT	(2929, 15678, 18.7%)						
	FL	(18710, 97653, 19.2%)						
	IN	(5813, 30001, 19.4%)						
	KS	(2598, 14024, 18.5%)						
	KY	(4253, 22284, 19.1%)						
	ME	(1356, 6967, 19.5%)						
	MI	(8855, 48204, 18.4%)						
	MN	(4142, 22731, 18.2%)						
	MO	(5357, 27563, 19.4%)						
	MT	(866, 4453, 19.4%)						
	NE	(1624, 8834, 18.4%)						
	NJ	(7096, 38504, 18.4%)						
	NY	(12249, 65475, 18.7%)						
	SC	(4262, 23089, 18.5%)						
	VI	(64, 337, 19.0%)						
	WV	(1955, 10585, 18.5%)						

Response Decile from Low to	Variable	Similar Deceased	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
3		CA (21228, 105608, 20.1%) GA (6935, 34427, IA ID (3013, 14968, 20.1%) NC NM (1219, 5956, 20.5%) NV RI (8250, 41146, TN UT 20.1%) WA (1542, 7370, 20.9%)	60394	238633	299027	23.23%	1.05	20.20%
4		(2011, 10109, AS (5, 22, AZ (4945, 21840, OH (10852, 50728, PA 21.4%) WI (11643, 54760,	32212	117188	149400	11.61%	1.13	21.56%
5		GU (50, 207, 24.2%) HI (789, 3014, 26.2%) OR (2973, 12323, 24.1%)	5121	14884	20005	1.55%	1.34	25.60%
			246503	*1040581*	1287084			
Bucketed Weighted Charlson Index WINDEXFMT								
1	WINDEXFMT	0 (10584, 229075, 4.6%)	10584	218491	229075	17.80%	0.24	4.62%
2		1-2 (76924, 503395, 15.3%)	76924	426471	503395	39.11%	0.80	15.28%
3		3-4 (61355, 283415, 21.6%)	61355	222060	283415	22.02%	1.13	21.65%
4		>=5 (97640, 271199, 36.0%)	97640	173559	271199	21.07%	1.88	36.00%
			246503	*1040581*	1287084			

Chi Square and Index Analysis of Numeric Variables

Patients over 67 with cancer are almost 2.4 times as likely die within a year

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
								AGE Chi-Square= 42077.451443	**P-Value= 0.00000**
1	AGE	0<=AGE<=58	47.71	9798	123984	133782	10.39%	0.38	7.32%
3		59<=AGE<=69	65.63	33460	234590	268050	20.83%	0.65	12.48%
4		70<=AGE<=72	70.97	15806	99532	115338	8.96%	0.72	13.70%
5		73<=AGE<=75	73.98	18508	99189	117697	9.14%	0.82	15.73%
6		76<=AGE<=115	85.00	168931	483286	652217	50.67%	1.35	25.90%
				246503	*1040581*	1287084			
								Age & Cancer Chi-Square= 75281.628032	**P-Value= 0.00000**
1	AGE_CANC	0<=AGE_CANC<=0	0.00	174994	950012	1125006	87.41%	0.81	15.55%
3		3<=AGE_CANC<=67	61.26	12140	18912	31052	2.41%	2.04	39.10%
4		68<=AGE_CANC<=108	79.44	59369	71657	131026	10.18%	2.37	45.31%
				246503	*1040581*	1287084			
								Age & Congestive heart failure Chi-Square= 37596.788079	**P-Value= 0.00000**
1	AGE_CHF	0<=AGE_CHF<=0	0.00	151443	798966	950409	73.84%	0.83	15.93%
3		7<=AGE_CHF<=69	61.44	13872	62731	76603	5.95%	0.95	18.11%
4		70<=AGE_CHF<=83	76.83	33960	101187	135147	10.50%	1.31	25.13%
5		84<=AGE_CHF<=113	89.65	47228	77697	124925	9.71%	1.97	37.81%
				246503	*1040581*	1287084			
								Age & Renal disease Chi-Square= 21220.564265	**P-Value= 0.00000**
1	AGE_REND	1<=AGE_REND<=64	54.00	6455	36883	43338	3.37%	0.78	14.89%
3		0<=AGE_REND<=0	0.00	169041	818326	987367	76.71%	0.89	17.12%
4		65<=AGE_REND<=80	72.99	27627	99971	127598	9.91%	1.13	21.65%
5		81<=AGE_REND<=113	87.80	43380	85401	128781	10.01%	1.76	33.69%
				246503	*1040581*	1287084			

AIDS/HIV Chi-Square= 27.213632565 P-Value= 0.00000

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521%	Percent with Deceased
1	AIDS	1<=AIDS<=1	1.00	610	3239	3849	0.30%	0.83	15.85%
3		0<=AIDS<=0	0.00	245893	1037342	1283235	99.70%	1.00	19.16%
				246503	*1040581*	1287084			
					Myocardial infarction Chi-Square= 2017.7517345 P-Value= 0.00000				
1	AMI	0<=AMI<=0	0.00	211881	927774	1139655	88.55%	0.97	18.59%
3		1<=AMI<=1	1.00	34622	112807	147429	11.45%	1.23	23.48%
				246503	*1040581*	1287084			
				AMI & Cancer Chi-Square= 6007.3215438 P-Value= 0.00000					
1	AMI_CANC	0<=AMI_CANC<=0	0.00	239448	1031128	1270576	98.72%	0.98	18.85%
3		1<=AMI_CANC<=1	1.00	7055	9453	16508	1.28%	2.23	42.74%
				246503	*1040581*	1287084			
					AMI & Congestive heart failure Chi-Square= 5694.8040661 P-Value= 0.00000				
1	AMI_CHF	0<=AMI_CHF<=0	0.00	222486	982244	1204730	93.60%	0.96	18.47%
3		1<=AMI_CHF<=1	1.00	24017	58337	82354	6.40%	1.52	29.16%
				246503	*1040581*	1287084			
						AMI & Renal disease Chi-Square= 3042.9552547 P-Value= 0.00000			
1	AMI_REND	19<=AMI_REND<=64	56.43	2948	16590	19538	1.52%	0.79	15.09%
3		0<=AMI_REND<=0	0.00	211881	927774	1139655	88.55%	0.97	18.59%
4		65<=AMI_REND<=113	78.74	31674	96217	127891	9.94%	1.29	24.77%
				246503	*1040581*	1287084			
				Any malignancy Chi-Square= 74655.446792 P-Value= 0.00000					
1	CANC	0<=CANC<=0	0.00	174994	950012	1125006	87.41%	0.81	15.55%
3		1<=CANC<=1	1.00	71509	90569	162078	12.59%	2.30	44.12%
				246503	*1040581*	1287084			

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
				Cancer & Congestive heart failure Chi-Square= 19076.592618					**P-Value= 0.00000**
1	CANC_CHF	0<=CANC_CHF<=0	0.00	229106	1020954	1250060	97.12%	0.96	18.33%
3		1<=CANC_CHF<=1	1.00	17397	19627	37024	2.88%	2.45	46.99%
				246503	*1040581*	1287084			
					Cancer & Renal disease Chi-Square= 17218.9763				**P-Value= 0.00000**
1	CANC_REND	0<=CANC_REND<=0	0.00	229324	1019806	1249130	97.05%	0.96	18.36%
3		1<=CANC_REND<=1	1.00	17179	20775	37954	2.95%	2.36	45.26%
				246503	*1040581*	1287084			
					Cerebrovascular disease Chi-Square= 8330.2733674				**P-Value= 0.00000**
1	CEVD	0<=CEVD<=0	0.00	197370	907361	1104731	85.83%	0.93	17.87%
3		1<=CEVD<=1	1.00	49133	133220	182353	14.17%	1.41	26.94%
				246503	*1040581*	1287084			
					Congestive heart failure Chi-Square= 24292.445951				**P-Value= 0.00000**
1	CHF	0<=CHF<=0	0.00	151443	798966	950409	73.84%	0.83	15.93%
3		1<=CHF<=1	1.00	95060	241615	336675	26.16%	1.47	28.23%
				246503	*1040581*	1287084			
					Congestive heart failure & Renal disease Chi-Square= 17188.664128				**P-Value= 0.00000**
1	CHF_REND	0<=CHF_REND<=0	0.00	199019	938164	1137183	88.35%	0.91	17.50%
3		1<=CHF_REND<=1	1.00	47484	102417	149901	11.65%	1.65	31.68%
				246503	*1040581*	1287084			
					Chronic pulmonary disease Chi-Square= 1902.1344454				**P-Value= 0.00000**
1	COPD	0<=COPD<=0	0.00	165440	744649	910089	70.71%	0.95	18.18%
3		1<=COPD<=1	1.00	81063	295932	376995	29.29%	1.12	21.50%

		246503	*1040581*	1287084	

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
					Dementia Chi-Square= 47514.268064			**P-Value= 0.00000**	
1	DEMENTIA	0<=DEMENTIA<=0	0.00	162486	883998	1046484	81.31%	0.81	15.53%
3		1<=DEMENTIA<=1	1.00	84017	156583	240600	18.69%	1.82	34.92%
				246503	*1040581*	1287084			
					Dementia Cancer Chi-Square= 13979.190555			**P-Value= 0.00000**	
1	DEMENTIA_CANC	0<=DEMENTIA_CANC<=0	0.00	235858	1030409	1266267	98.38%	0.97	18.63%
3		1<=DEMENTIA_CANC<=1	1.00	10645	10172	20817	1.62%	2.67	51.14%
				246503	*1040581*	1287084			
					Dementia Congestive heart failure Chi-Square= 24156.764624			**P-Value= 0.00000**	
1	DEMENTIA_CHF	0<=DEMENTIA_CHF<=0	0.00	216431	997510	1213941	94.32%	0.93	17.83%
3		1<=DEMENTIA_CHF<=1	1.00	30072	43071	73143	5.68%	2.15	41.11%
				246503	*1040581*	1287084			
					Dementia Renal disease Chi-Square= 17750.080831			**P-Value= 0.00000**	
1	DEMENTIA_REND	0<=DEMENTIA_REND<=0	0.00	220815	1000517	1221332	94.89%	0.94	18.08%
3		1<=DEMENTIA_REND<=1	1.00	25688	40064	65752	5.11%	2.04	39.07%
				246503	*1040581*	1287084			
					Diabetes without complication Chi-Square= 388.27349036			**P-Value= 0.00000**	
1	DIAB	1<=DIAB<=1	1.00	67673	306530	374203	29.07%	0.94	18.08%
3		0<=DIAB<=0	0.00	178830	734051	912881	70.93%	1.02	19.59%
				246503	*1040581*	1287084			
					Diabetes with chronic complication Chi-Square= 268.5317337			**P-Value= 0.00000**	
1	DIABWC	1<=DIABWC<=1	1.00	27192	127198	154390	12.00%	0.92	17.61%
3		0<=DIABWC<=0	0.00	219311	913383	1132694	88.00%	1.01	19.36%

		246503	*1040581*	1287084	

Decile from	Deceased Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521%	Percent with Deceased
DIE Chi-Square= 1287084	**P-Value= 0.00000**									
1		DIE	0<=DIE<=0	0.00	0	1040581	1040581	80.85%	0.00	0.00%
3			1<=DIE<=1	1.00	246503	0	246503	19.15%	5.22	100.00%
					246503	*1040581*	1287084			
						Hemiplegia or paraplegia Chi-Square= 1190.2419489			**P-Value= 0.00000**	
1		HP	0<=HP<=0	0.00	235246	1007696	1242942	96.57%	0.99	18.93%
3			1<=HP<=1	1.00	11257	32885	44142	3.43%	1.33	25.50%
					246503	*1040581*	1287084			
							INDEX Chi-Square= 58790.891217		**P-Value= 0.00000**	
1		INDEX	1<=INDEX<=1	1.00	10584	218491	229075	17.80%	0.24	4.62%
3			2<=INDEX<=2	2.00	118987	531660	650647	50.55%	0.95	18.29%
4			3<=INDEX<=3	3.00	82117	225346	307463	23.89%	1.39	26.71%
5			4<=INDEX<=4	4.00	34815	65084	99899	7.76%	1.82	34.85%
					246503	*1040581*	1287084			
							Metastatic solid tumour Chi-Square= 74119.970335		**P-Value= 0.00000**	
1		METACANC	0<=METACANC<=0	0.00	209583	1017991	1227574	95.38%	0.89	17.07%
3			1<=METACANC<=1	1.00	36920	22590	59510	4.62%	3.24	62.04%
					246503	*1040581*	1287084			
							Metastatic AGE Chi-Square= 74119.970335		**P-Value= 0.00000**	
1		METACANC_AGE	0<=METACANC_AGE<=0	0.00	209583	1017991	1227574	95.38%	0.89	17.07%
3			3<=METACANC_AGE<=106	74.48	36920	22590	59510	4.62%	3.24	62.04%
					246503	*1040581*	1287084			
							Metastatic Cancer Congestive heart failure Chi-Square= 14755.543746		**P-Value= 0.00000**	
1		METACANC_CHF	0<=METACANC_CHF<=0	0.00	239370	1036631	1276001	99.14%	0.98	18.76%

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
3		1<=METACANC_CHF<=1	1.00	7133	3950	11083	0.86%	3.36	64.36%
				246503	*1040581*	1287084			
				Metastatic Cancer Dementia Chi-Square= 8017.4754335 P-Value= 0.00000					
1	METACANC_DEMENTIA	0<=METACANC_DEMENTIA<=0	0.00	242926	1038853	1281779	99.59%	0.99	18.95%
3		1<=METACANC_DEMENTIA<=1	1.00	3577	1728	5305	0.41%	3.52	67.43%
				246503	*1040581*	1287084			
				Metastatic Cancer Renal disease Chi-Square= 15181.891231 P-Value= 0.00000					
1	METACANC_REND	0<=METACANC_REND<=0	0.00	238848	1036064	1274912	99.05%	0.98	18.73%
3		1<=METACANC_REND<=1	1.00	7655	4517	12172	0.95%	3.28	62.89%
				246503	*1040581*	1287084			
	Mild liver disease Chi-Square= 1377.2453282 P-Value= 0.00000								
1	MLD	0<=MLD<=0	0.00	233655	1003111	1236766	96.09%	0.99	18.89%
3		1<=MLD<=1	1.00	12848	37470	50318	3.91%	1.33	25.53%
				246503	*1040581*	1287084			
Moderate or severe liver disease Chi-Square= 6218.2712746 P-Value= 0.00000									
1	MSLD	0<=MSLD<=0	0.00	239507	1031477	1270984	98.75%	0.98	18.84%
3		1<=MSLD<=1	1.00	6996	9104	16100	1.25%	2.27	43.45%
				246503	*1040581*	1287084			
	Pepticulcer disease Chi-Square= 42.971217676 P-Value= 0.00000								
1	PUD	0<=PUD<=0	0.00	240262	1016551	1256813	97.65%	1.00	19.12%
3		1<=PUD<=1	1.00	6241	24030	30271	2.35%	1.08	20.62%
				246503	*1040581*	1287084			
Peripheral vascular disease Chi-Square= 2906.7715286 P-Value= 0.00000									

1	PVD	0<=PVD<=0	0.00	205148	908878	1114026	86.55%	0.96	18.42%

Deceased Decile from Low to	High	Variable	Similar Deceased Levels	Mean Value	Responders in Level	Non-Responders Deceased	Deceased	Percent Total	Index Response Rate divided by Overall Coverage	Percent with 19.1521% Deceased
3		1<=PVD<=1		1.00	41355	131703	173058	13.45%	1.25	23.90%
						246503		*1040581*	1287084	
							Renal disease Chi-Square= 11303.710578	**P-Value= 0.00000**		
1		REND	0<=REND<=0	0.00	169040	818325	987365	76.71%	0.89	17.12%
3			1<=REND<=1	1.00	77463	222256	299719	23.29%	1.35	25.85%
						246503		*1040581*	1287084	
							Rheumatic disease Chi-Square= 413.48528334	**P-Value= 0.00000**		
1		RHEUMD	1<=RHEUMD<=1	1.00	8806	46811	55617	4.32%	0.83	15.83%
3			0<=RHEUMD<=0	0.00	237697	993770	1231467	95.68%	1.01	19.30%
						246503		*1040581*	1287084	
							SCORE Chi-Square= 60136.529988	**P-Value= 0.00000**		
1		SCORE	0<=SCORE<=0	0.00	10584	218491	229075	17.80%	0.24	4.62%
3			1<=SCORE<=1	1.00	59854	300649	360503	28.01%	0.87	16.60%
4			2<=SCORE<=2	2.00	59133	231011	290144	22.54%	1.06	20.38%
5			3<=SCORE<=3	3.00	48132	143835	191967	14.91%	1.31	25.07%
6			4<=SCORE<=11	4.72	68800	146595	215395	16.74%	1.67	31.94%
							1287084	*246503*	*1040581*	
							WINDEX Chi-Square= 26087.256114	**P-Value= 0.00000**		
1		WINDEX	1<=WINDEX<=1	1.00	10584	218491	229075	17.80%	0.24	4.62%
3			2<=WINDEX<=2	2.00	76924	426471	503395	39.11%	0.80	15.28%
4			3<=WINDEX<=3	3.00	61355	222060	283415	22.02%	1.13	21.65%
5			4<=WINDEX<=4	4.00	97640	173559	271199	21.07%	1.88	36.00%
							1287084	*246503*	*1040581*	
							WSCORE Chi-Square= 79661.250203	**P-Value= 0.00000**		4.62%

1	WSCORE	0<=WSCORE<=0	0.00	10584	218491	229075	17.80%	0.24

Deceased Decile from Low to High		Variable	Similar Deceased Levels	in	Mean Value Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
	3		1<=WSCORE<=1		1.00	36759	236875	273634	21.26%	0.70	13.43%
	4		2<=WSCORE<=2		2.00	40165	189596	229761	17.85%	0.91	17.48%
	5		3<=WSCORE<=3		3.00	33600	129717	163317	12.69%	1.07	20.57%
	6		4<=WSCORE<=22		5.79	125395	265902	391297	30.40%	1.67	32.05%
						246503	*1040581*	1287084			

Diagnostics on 1.5% Sample - PDF Size issue

Full diagnostics on 1.5% sample of 300k

Model	Information
Data Set	REG.REG_BUILDSAVALL
Response Variable	DIE
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	19282
Number of Observations Used	19282

	Response Profile		
	Ordered Value	DIE	Total Frequency
	1	1	3655
	2	0	15627

Probability modeled is DIE=1.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

	Model Fit Statistics	
Criterion	Intercept Only	Intercept and Covariates
AIC	18727.795	15911.828
SC	18735.662	15966.896
-2 Log L	18725.795	15897.828

Full diagnostics on 1.5% sample of 300k

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2827.9676	6	<.0001
Score	3081.3593	6	<.0001
Wald	2376.9113	6	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
INTERCEPT	1	-7.5450	0.3949	365.1171	<.0001
_WINDEX	1	0.5377	0.0469	131.4075	<.0001
_CANCALL	1	0.5890	0.0226	676.3435	<.0001
_AGEBIN	1	0.0697	0.00455	233.9602	<.0001
_DEMENTIA	1	0.8011	0.0483	275.0527	<.0001
_AGE_CHF	1	0.5670	0.0562	101.9482	<.0001
_SEX	1	1.8292	0.3748	23.8209	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
_WINDEX	1.712	1.562	1.877
_CANCALL	1.802	1.724	1.884
_AGEBIN	1.072	1.063	1.082
_DEMENTIA	2.228	2.027	2.449
_AGE_CHF	1.763	1.579	1.968
_SEX	6.229	2.988	12.984

Full diagnostics on 1.5% sample of 300k

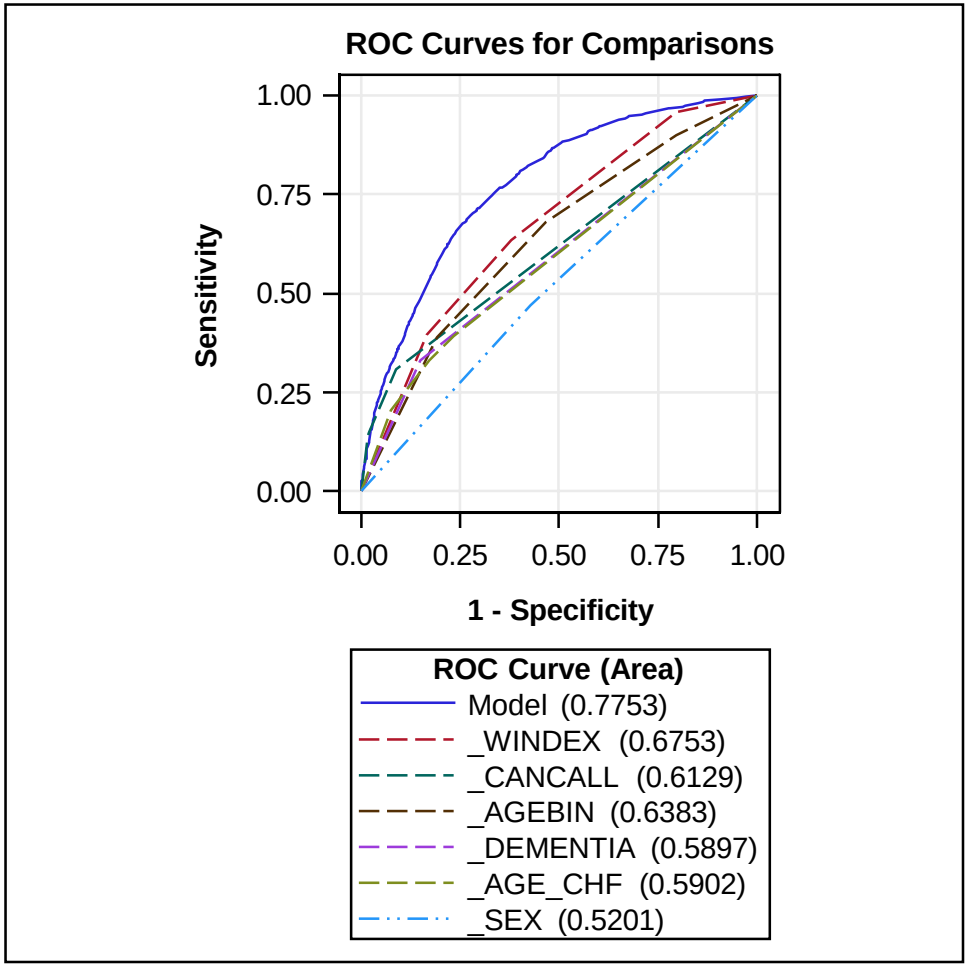
Partition for the Hosmer and Lemeshow Test

Group	Total	DIE = 1		DIE = 0	
		Observed	Expected	Observed	Expected
1	2138	51	106.50	2087	2031.50
2	1490	73	96.36	1417	1393.64
3	1798	88	136.14	1710	1661.86
4	1673	140	151.48	1533	1521.52
5	1920	231	205.52	1689	1714.48
6	1972	272	261.11	1700	1710.89
7	1802	325	309.68	1477	1492.32
8	1775	498	405.07	1277	1369.93
9	1939	661	557.35	1278	1381.65
10	2775	1316	1425.79	1459	1349.21

Hosmer and Lemeshow Goodness-of-Fit Test

Chi-Square	DF	Pr > ChiSq
132.9097	8	<.0001

Full diagnostics on 1.5% sample of 300k



ROC Association Statistics

ROC Model	Area	Standard Error	Mann-Whitney 95% Wald Confidence Limits		Somers' D (Gini)	Gamma	Tau-a
Model	0.7753	0.00412	0.7672	0.7834	0.5506	0.5556	0.1692
_WINDEX	0.6753	0.00455	0.6664	0.6842	0.3506	0.4735	0.1077
_CANCALL	0.6129	0.00405	0.6050	0.6208	0.2258	0.6333	0.0694
_AGEBIN	0.6383	0.00492	0.6287	0.6480	0.2766	0.3675	0.0850

Full diagnostics on 1.5% sample of 300k

ROC Association Statistics							
			Mann-Whitney				
ROC Model	Area	Standard Error	95% Wald Confidence Limits		Somers' D (Gini)	Gamma	Tau-a
_DEMENTIA	0.5897	0.00414	0.5816	0.5979	0.1795	0.4713	0.0552
_AGE_CHF	0.5902	0.00458	0.5812	0.5992	0.1804	0.3588	0.0554
_SEX	0.5201	0.00458	0.5112	0.5291	0.0403	0.0813	0.0124

Variables by Descending Chi-Square

Variable	Variable Desc	Chi-Square	Prob > Chi_square
WINDEX	Weighted Charlson Index WINDEX	86,988	0
WINDEXFMT	Bucketed Weighted Charlson Index WINDEXFMT	86,988	0
WSCORE	Weighted Charlson Score WSCORE	79,661	0
AGE_CANC	Age & Cancer AGE_CANC	75,282	0
CANC	Any malignancy CANC	74,655	0
METACANC	Metastatic solid tumour METACANC	74,120	0
SCORE	Unweighted Charlson Score SCORE	60,137	0
INDEX	Unweighted Charlson Index INDEX	58,791	0
INDEXFMT	Bucketed Unweighted Charlson Index INDEXFMT	58,791	0
DEMENTIA	Dementia DEMENTIA	47,514	0
AGE	AGE	42,077	0
AGE_CHF	Age & Congestive heart failure AGE_CHF	37,597	0
CHF	Congestive heart failure CHF	24,292	0
DEMENTIA_CHF	Dementia Congestive heart failure DEMENTIA_CHF	24,157	0
AGE_REND	Age & Renal disease AGE_REND	21,221	0
CANC_CHF	Cancer & Congestive heart failure CANC_CHF	19,077	0
DEMENTIA_REND	Dementia Renal disease DEMENTIA_REND	17,750	0
CANC_REND	Cancer & Renal disease CANC_REND	17,219	0
CHF_REND	Congestive heart failure & Renal disease CHF_REND	17,189	0
METACANC_REND	Metastatic Cancer Renal disease METACANC_REND	15,182	0
METACANC_CHF	Metastatic Cancer Congestive heart failure METACANC_CHF	14,756	0
DEMENTIA_CANC	Dementia Cancer DEMENTIA_CANC	13,979	0
REND	Renal disease REND	11,304	0
CEVD	Cerebrovascular disease CEVD	8,330	0
METACANC_DEMENTIA	Metastatic Cancer Dementia METACANC_DEMENTIA	8,017	0
MSLD	Moderate or severe liver disease MSLD	6,218	0
AMI_CANC	AMI & Cancer AMI_CANC	6,007	0

Patients with metastatic cancer and dementia are 3.5 times more likely to die within a year

Variable	Categories	Deceased Victims	Non Deceased	Total	Index	Death Percent Response
METACANC_DEMENTIA	1<=METACANC_DEMENTIA<=1	3577	1728	5305	3.521	67.43%
METACANC_CHF	1<=METACANC_CHF<=1	7133	3950	11083	3.360	64.36%
METACANC_REND	1<=METACANC_REND<=1	7655	4517	12172	3.284	62.89%
METACANC	1<=METACANC<=1	36920	22590	59510	3.239	62.04%
METACANC_AGE	3<=METACANC_AGE<=106	36920	22590	59510	3.239	62.04%
DEMENTIA_CANC	1<=DEMENTIA_CANC<=1	10645	10172	20817	2.670	51.14%
CANC_CHF	1<=CANC_CHF<=1	17397	19627	37024	2.453	46.99%
AGE_CANC	68<=AGE_CANC<=108	59369	71657	131026	2.366	45.31%
CANC_REND	1<=CANC_REND<=1	17179	20775	37954	2.363	45.26%
CANC	1<=CANC<=1	71509	90569	162078	2.304	44.12%
MSLD	1<=MSLD<=1	6996	9104	16100	2.269	43.45%
AMI_CANC	1<=AMI_CANC<=1	7055	9453	16508	2.231	42.74%
DEMENTIA_CHF	1<=DEMENTIA_CHF<=1	30072	43071	73143	2.147	41.11%
AGE_CANC	3<=AGE_CANC<=67	12140	18912	31052	2.041	39.10%
DEMENTIA_REND	1<=DEMENTIA_REND<=1	25688	40064	65752	2.040	39.07%
AGE_CHF	84<=AGE_CHF<=113	47228	77697	124925	1.974	37.81%
WINDEX	4<=WINDEX<=4	97640	173559	271199	1.880	36.00%
WINDEXFMT	>=5 (97640, 271199, 36.0%)	97640	173559	271199	1.880	36.00%
DEMENTIA	1<=DEMENTIA<=1	84017	156583	240600	1.823	34.92%
INDEX	4<=INDEX<=4	34815	65084	99899	1.820	34.85%
INDEXFMT	>=5 (34815, 99899, 34.9%)	34815	65084	99899	1.820	34.85%
AGE_REND	81<=AGE_REND<=113	43380	85401	128781	1.759	33.69%
WSCORE	4<=WSCORE<=22	125395	265902	391297	1.673	32.05%
SCORE	4<=SCORE<=11	68800	146595	215395	1.668	31.94%
CHF_REND	1<=CHF_REND<=1	47484	102417	149901	1.654	31.68%

Chi Square and Index Analysis of Character Variables

Response Decile from Low to High	Variable	Similar Deceased Levels	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
								Bucketed Unweighted Charlson Index INDEXFMT
1	INDEXFMT	0 (10584, 229075, 4.6%)	10584	218491	229075	17.80%	0.24	4.62%
2		1-2 (118987, 650647, 18.3%)	118987	531660	650647	50.55%	0.95	18.29%
3		3-4 (82117, 307463, 26.7%)	82117	225346	307463	23.89%	1.39	26.71%
4		>=5 (34815, 99899, 34.9%)	34815	65084	99899	7.76%	1.82	34.85%
			246503	*1040581*	1287084			
								RACE_CD
1	RACE_CD	0 (899, 9437, 9.5%)	899	8538	9437	0.73%	0.50	9.53%
2		2 (23308, 144312, 16.2%)	24537	127626	152163	11.82%	0.84	16.13%
		6 (1229, 7851, 15.7%)						
3		3 (1300, 7694, 16.9%)	20143	96249	116392	9.04%	0.90	17.31%
		4 (4371, 24982, 17.5%)						
		5 (14472, 83716, 17.3%)						
4		1 (200924, 1009092, 19.9%)	200924	808168	1009092	78.40%	1.04	19.91%
			246503	*1040581*	1287084			
								SEX
1	SEX	F (132551, 725329, 18.3%)	132551	592778	725329	56.35%	0.95	18.27%
2		M (113952, 561755, 20.3%)	113952	447803	561755	43.65%	1.06	20.28%
			246503	*1040581*	1287084			
								STATE

Response Decile from Low to	Variable	Similar Deceased	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
1	STATE	(49, 312, 15.7%)	63628	302841	366469	28.47%	0.91	17.36%
	AK	(289, 1899, 15.2%)						
	AL	(4801, 26814, 17.9%)						
	DC	(431, 2434, 17.7%)						
	DE	(896, 5246, 17.1%)						
	IL	(9999, 57550, 17.4%)						
	LA	(3867, 21819, 17.7%)						
	MA	(5324, 32608, 16.3%)						
	MD	(4465, 25990, 17.2%)						
	MS	(3084, 18290, 16.9%)						
	ND	(548, 3361, 16.3%)						
	NH	(1221, 7048, 17.3%)						
	OK	(3668, 21365, 17.2%)						
	SD	(733, 4298, 17.1%)						
	TX	(17028, 96629, 17.6%)						
	VA	(6200, 34876, 17.8%)						
	VT	(593, 3351, 17.7%)						
	WY	(432, 2579, 16.8%)						
2	AR	(3019, 15801, 19.1%)	85148	367035	452183	35.13%	0.98	18.83%
	CT	(2929, 15678, 18.7%)						
	FL	(18710, 97653, 19.2%)						
	IN	(5813, 30001, 19.4%)						
	KS	(2598, 14024, 18.5%)						
	KY	(4253, 22284, 19.1%)						
	ME	(1356, 6967, 19.5%)						
	MI	(8855, 48204, 18.4%)						
	MN	(4142, 22731, 18.2%)						
	MO	(5357, 27563, 19.4%)						
	MT	(866, 4453, 19.4%)						
	NE	(1624, 8834, 18.4%)						
	NJ	(7096, 38504, 18.4%)						
	NY	(12249, 65475, 18.7%)						
	SC	(4262, 23089, 18.5%)						
	VI	(64, 337, 19.0%)						
	WV	(1955, 10585, 18.5%)						

Response Decile from Low to	Variable	Similar Deceased	Responders Deceased Victims	Non-Responders All Others	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent Deceased
3		CA (21228, 105608, 20.1%) GA (6935, 34427, IA ID (3013, 14968, 20.1%) NC NM (1219, 5956, 20.5%) NV RI (8250, 41146, TN UT 20.1%) WA (1542, 7370, 20.9%)	60394	238633	299027	23.23%	1.05	20.20%
4		(2011, 10109, AS (5, 22, AZ (4945, 21840, OH (10852, 50728, PA 21.4%) WI (11643, 54760,	32212	117188	149400	11.61%	1.13	21.56%
5		GU (50, 207, 24.2%) HI (789, 3014, 26.2%) OR (2973, 12323, 24.1%)	5121	14884	20005	1.55%	1.34	25.60%
			246503	*1040581*	1287084			
Bucketed Weighted Charlson Index WINDEXFMT								
1	WINDEXFMT	0 (10584, 229075, 4.6%)	10584	218491	229075	17.80%	0.24	4.62%
2		1-2 (76924, 503395, 15.3%)	76924	426471	503395	39.11%	0.80	15.28%
3		3-4 (61355, 283415, 21.6%)	61355	222060	283415	22.02%	1.13	21.65%
4		>=5 (97640, 271199, 36.0%)	97640	173559	271199	21.07%	1.88	36.00%
			246503	*1040581*	1287084			

Chi Square and Index Analysis of Numeric Variables

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
								AGE Chi-Square= 42077.451443	**P-Value= 0.00000**
1	AGE	0<=AGE<=58	47.71	9798	123984	133782	10.39%	0.38	7.32%
3		59<=AGE<=69	65.63	33460	234590	268050	20.83%	0.65	12.48%
4		70<=AGE<=72	70.97	15806	99532	115338	8.96%	0.72	13.70%
5		73<=AGE<=75	73.98	18508	99189	117697	9.14%	0.82	15.73%
6		76<=AGE<=115	85.00	168931	483286	652217	50.67%	1.35	25.90%
				246503	*1040581*	1287084			
								Age & Cancer Chi-Square= 75281.628032	**P-Value= 0.00000**
1	AGE_CANC	0<=AGE_CANC<=0	0.00	174994	950012	1125006	87.41%	0.81	15.55%
3		3<=AGE_CANC<=67	61.26	12140	18912	31052	2.41%	2.04	39.10%
4		68<=AGE_CANC<=108	79.44	59369	71657	131026	10.18%	2.37	45.31%
				246503	*1040581*	1287084			
								Age & Congestive heart failure Chi-Square= 37596.788079	**P-Value= 0.00000**
1	AGE_CHF	0<=AGE_CHF<=0	0.00	151443	798966	950409	73.84%	0.83	15.93%
3		7<=AGE_CHF<=69	61.44	13872	62731	76603	5.95%	0.95	18.11%
4		70<=AGE_CHF<=83	76.83	33960	101187	135147	10.50%	1.31	25.13%
5		84<=AGE_CHF<=113	89.65	47228	77697	124925	9.71%	1.97	37.81%
				246503	*1040581*	1287084			
								Age & Renal disease Chi-Square= 21220.564265	**P-Value= 0.00000**
1	AGE_REND	1<=AGE_REND<=64	54.00	6455	36883	43338	3.37%	0.78	14.89%
3		0<=AGE_REND<=0	0.00	169041	818326	987367	76.71%	0.89	17.12%
4		65<=AGE_REND<=80	72.99	27627	99971	127598	9.91%	1.13	21.65%
5		81<=AGE_REND<=113	87.80	43380	85401	128781	10.01%	1.76	33.69%
				246503	*1040581*	1287084			

AIDS/HIV Chi-Square= 27.213632565 P-Value= 0.00000

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521%	Percent with Deceased
1	AIDS	1<=AIDS<=1	1.00	610	3239	3849	0.30%	0.83	15.85%
3		0<=AIDS<=0	0.00	245893	1037342	1283235	99.70%	1.00	19.16%
				246503	*1040581*	1287084			
					Myocardial infarction Chi-Square= 2017.7517345 P-Value= 0.00000				
1	AMI	0<=AMI<=0	0.00	211881	927774	1139655	88.55%	0.97	18.59%
3		1<=AMI<=1	1.00	34622	112807	147429	11.45%	1.23	23.48%
				246503	*1040581*	1287084			
				AMI & Cancer Chi-Square= 6007.3215438 P-Value= 0.00000					
1	AMI_CANC	0<=AMI_CANC<=0	0.00	239448	1031128	1270576	98.72%	0.98	18.85%
3		1<=AMI_CANC<=1	1.00	7055	9453	16508	1.28%	2.23	42.74%
				246503	*1040581*	1287084			
					AMI & Congestive heart failure Chi-Square= 5694.8040661 P-Value= 0.00000				
1	AMI_CHF	0<=AMI_CHF<=0	0.00	222486	982244	1204730	93.60%	0.96	18.47%
3		1<=AMI_CHF<=1	1.00	24017	58337	82354	6.40%	1.52	29.16%
				246503	*1040581*	1287084			
						AMI & Renal disease Chi-Square= 3042.9552547 P-Value= 0.00000			
1	AMI_REND	19<=AMI_REND<=64	56.43	2948	16590	19538	1.52%	0.79	15.09%
3		0<=AMI_REND<=0	0.00	211881	927774	1139655	88.55%	0.97	18.59%
4		65<=AMI_REND<=113	78.74	31674	96217	127891	9.94%	1.29	24.77%
				246503	*1040581*	1287084			
					Any malignancy Chi-Square= 74655.446792 P-Value= 0.00000				
1	CANC	0<=CANC<=0	0.00	174994	950012	1125006	87.41%	0.81	15.55%
3		1<=CANC<=1	1.00	71509	90569	162078	12.59%	2.30	44.12%
				246503	*1040581*	1287084			

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
				Cancer & Congestive heart failure Chi-Square= 19076.592618					**P-Value= 0.00000**
1	CANC_CHF	0<=CANC_CHF<=0	0.00	229106	1020954	1250060	97.12%	0.96	18.33%
3		1<=CANC_CHF<=1	1.00	17397	19627	37024	2.88%	2.45	46.99%
				246503	*1040581*	1287084			
					Cancer & Renal disease Chi-Square= 17218.9763				**P-Value= 0.00000**
1	CANC_REND	0<=CANC_REND<=0	0.00	229324	1019806	1249130	97.05%	0.96	18.36%
3		1<=CANC_REND<=1	1.00	17179	20775	37954	2.95%	2.36	45.26%
				246503	*1040581*	1287084			
						Cerebrovascular disease Chi-Square= 8330.2733674			**P-Value= 0.00000**
1	CEVD	0<=CEVD<=0	0.00	197370	907361	1104731	85.83%	0.93	17.87%
3		1<=CEVD<=1	1.00	49133	133220	182353	14.17%	1.41	26.94%
				246503	*1040581*	1287084			
						Congestive heart failure Chi-Square= 24292.445951			**P-Value= 0.00000**
1	CHF	0<=CHF<=0	0.00	151443	798966	950409	73.84%	0.83	15.93%
3		1<=CHF<=1	1.00	95060	241615	336675	26.16%	1.47	28.23%
				246503	*1040581*	1287084			
						Congestive heart failure & Renal disease Chi-Square= 17188.664128			**P-Value= 0.00000**
1	CHF_REND	0<=CHF_REND<=0	0.00	199019	938164	1137183	88.35%	0.91	17.50%
3		1<=CHF_REND<=1	1.00	47484	102417	149901	11.65%	1.65	31.68%
				246503	*1040581*	1287084			
						Chronic pulmonary disease Chi-Square= 1902.1344454			**P-Value= 0.00000**
1	COPD	0<=COPD<=0	0.00	165440	744649	910089	70.71%	0.95	18.18%
3		1<=COPD<=1	1.00	81063	295932	376995	29.29%	1.12	21.50%

		246503	*1040581*	1287084	

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
						Dementia Chi-Square= 47514.268064		**P-Value= 0.00000**	
1	DEMENTIA	0<=DEMENTIA<=0	0.00	162486	883998	1046484	81.31%	0.81	15.53%
3		1<=DEMENTIA<=1	1.00	84017	156583	240600	18.69%	1.82	34.92%
				246503	*1040581*	1287084			
						Dementia Cancer Chi-Square= 13979.190555		**P-Value= 0.00000**	
1	DEMENTIA_CANC	0<=DEMENTIA_CANC<=0	0.00	235858	1030409	1266267	98.38%	0.97	18.63%
3		1<=DEMENTIA_CANC<=1	1.00	10645	10172	20817	1.62%	2.67	51.14%
				246503	*1040581*	1287084			
						Dementia Congestive heart failure Chi-Square= 24156.764624		**P-Value= 0.00000**	
1	DEMENTIA_CHF	0<=DEMENTIA_CHF<=0	0.00	216431	997510	1213941	94.32%	0.93	17.83%
3		1<=DEMENTIA_CHF<=1	1.00	30072	43071	73143	5.68%	2.15	41.11%
				246503	*1040581*	1287084			
						Dementia Renal disease Chi-Square= 17750.080831		**P-Value= 0.00000**	
1	DEMENTIA_REND	0<=DEMENTIA_REND<=0	0.00	220815	1000517	1221332	94.89%	0.94	18.08%
3		1<=DEMENTIA_REND<=1	1.00	25688	40064	65752	5.11%	2.04	39.07%
				246503	*1040581*	1287084			
						Diabetes without complication Chi-Square= 388.27349036		**P-Value= 0.00000**	
1	DIAB	1<=DIAB<=1	1.00	67673	306530	374203	29.07%	0.94	18.08%
3		0<=DIAB<=0	0.00	178830	734051	912881	70.93%	1.02	19.59%
				246503	*1040581*	1287084			
						Diabetes with chronic complication Chi-Square= 268.5317337		**P-Value= 0.00000**	
1	DIABWC	1<=DIABWC<=1	1.00	27192	127198	154390	12.00%	0.92	17.61%
3		0<=DIABWC<=0	0.00	219311	913383	1132694	88.00%	1.01	19.36%

		246503	*1040581*	1287084	

Decile from	Deceased Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521%	Percent with Deceased
DIE Chi-Square= 1287084	**P-Value= 0.00000**									
1		DIE	0<=DIE<=0	0.00	0	1040581	1040581	80.85%	0.00	0.00%
3			1<=DIE<=1	1.00	246503	0	246503	19.15%	5.22	100.00%
					246503	*1040581*	1287084			
						Hemiplegia or paraplegia Chi-Square= 1190.2419489			**P-Value= 0.00000**	
1		HP	0<=HP<=0	0.00	235246	1007696	1242942	96.57%	0.99	18.93%
3			1<=HP<=1	1.00	11257	32885	44142	3.43%	1.33	25.50%
					246503	*1040581*	1287084			
							INDEX Chi-Square= 58790.891217		**P-Value= 0.00000**	
1		INDEX	1<=INDEX<=1	1.00	10584	218491	229075	17.80%	0.24	4.62%
3			2<=INDEX<=2	2.00	118987	531660	650647	50.55%	0.95	18.29%
4			3<=INDEX<=3	3.00	82117	225346	307463	23.89%	1.39	26.71%
5			4<=INDEX<=4	4.00	34815	65084	99899	7.76%	1.82	34.85%
					246503	*1040581*	1287084			
							Metastatic solid tumour Chi-Square= 74119.970335		**P-Value= 0.00000**	
1		METACANC	0<=METACANC<=0	0.00	209583	1017991	1227574	95.38%	0.89	17.07%
3			1<=METACANC<=1	1.00	36920	22590	59510	4.62%	3.24	62.04%
					246503	*1040581*	1287084			
							Metastatic AGE Chi-Square= 74119.970335		**P-Value= 0.00000**	
1		METACANC_AGE	0<=METACANC_AGE<=0	0.00	209583	1017991	1227574	95.38%	0.89	17.07%
3			3<=METACANC_AGE<=106	74.48	36920	22590	59510	4.62%	3.24	62.04%
					246503	*1040581*	1287084			
							Metastatic Cancer Congestive heart failure Chi-Square= 14755.543746		**P-Value= 0.00000**	
1		METACANC_CHF	0<=METACANC_CHF<=0	0.00	239370	1036631	1276001	99.14%	0.98	18.76%

Deceased Decile from Low to High	Variable	Similar Deceased Levels	Mean Value in Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
3		1<=METACANC_CHF<=1	1.00	7133	3950	11083	0.86%	3.36	64.36%
				246503	*1040581*	1287084			
				Metastatic Cancer Dementia Chi-Square= 8017.4754335 P-Value= 0.00000					
1	METACANC_DEMENTIA	0<=METACANC_DEMENTIA<=0	0.00	242926	1038853	1281779	99.59%	0.99	18.95%
3		1<=METACANC_DEMENTIA<=1	1.00	3577	1728	5305	0.41%	3.52	67.43%
				246503	*1040581*	1287084			
				Metastatic Cancer Renal disease Chi-Square= 15181.891231 P-Value= 0.00000					
1	METACANC_REND	0<=METACANC_REND<=0	0.00	238848	1036064	1274912	99.05%	0.98	18.73%
3		1<=METACANC_REND<=1	1.00	7655	4517	12172	0.95%	3.28	62.89%
				246503	*1040581*	1287084			
	Mild liver disease Chi-Square= 1377.2453282 P-Value= 0.00000								
1	MLD	0<=MLD<=0	0.00	233655	1003111	1236766	96.09%	0.99	18.89%
3		1<=MLD<=1	1.00	12848	37470	50318	3.91%	1.33	25.53%
				246503	*1040581*	1287084			
Moderate or severe liver disease Chi-Square= 6218.2712746 P-Value= 0.00000									
1	MSLD	0<=MSLD<=0	0.00	239507	1031477	1270984	98.75%	0.98	18.84%
3		1<=MSLD<=1	1.00	6996	9104	16100	1.25%	2.27	43.45%
				246503	*1040581*	1287084			
	Pepticulcer disease Chi-Square= 42.971217676 P-Value= 0.00000								
1	PUD	0<=PUD<=0	0.00	240262	1016551	1256813	97.65%	1.00	19.12%
3		1<=PUD<=1	1.00	6241	24030	30271	2.35%	1.08	20.62%
				246503	*1040581*	1287084			
Peripheral vascular disease Chi-Square= 2906.7715286 P-Value= 0.00000									

1	PVD	0<=PVD<=0	0.00	205148	908878	1114026	86.55%	0.96	18.42%

Deceased Decile from Low to	High	Variable	Similar Deceased Levels	Mean Value	Responders in Level	Non-Responders Deceased	Deceased	Percent Total	Index Response Rate divided by Overall Coverage	Percent with 19.1521% Deceased
3		1<=PVD<=1		1.00	41355	131703	173058	13.45%	1.25	23.90%
						246503		*1040581*	1287084	
							Renal disease Chi-Square= 11303.710578	**P-Value= 0.00000**		
1		REND	0<=REND<=0	0.00	169040	818325	987365	76.71%	0.89	17.12%
3			1<=REND<=1	1.00	77463	222256	299719	23.29%	1.35	25.85%
						246503		*1040581*	1287084	
							Rheumatic disease Chi-Square= 413.48528334	**P-Value= 0.00000**		
1		RHEUMD	1<=RHEUMD<=1	1.00	8806	46811	55617	4.32%	0.83	15.83%
3			0<=RHEUMD<=0	0.00	237697	993770	1231467	95.68%	1.01	19.30%
						246503		*1040581*	1287084	
							SCORE Chi-Square= 60136.529988	**P-Value= 0.00000**		
1		SCORE	0<=SCORE<=0	0.00	10584	218491	229075	17.80%	0.24	4.62%
3			1<=SCORE<=1	1.00	59854	300649	360503	28.01%	0.87	16.60%
4			2<=SCORE<=2	2.00	59133	231011	290144	22.54%	1.06	20.38%
5			3<=SCORE<=3	3.00	48132	143835	191967	14.91%	1.31	25.07%
6			4<=SCORE<=11	4.72	68800	146595	215395	16.74%	1.67	31.94%
							1287084	*246503*	*1040581*	
							WINDEX Chi-Square= 26087.256114	**P-Value= 0.00000**		
1		WINDEX	1<=WINDEX<=1	1.00	10584	218491	229075	17.80%	0.24	4.62%
3			2<=WINDEX<=2	2.00	76924	426471	503395	39.11%	0.80	15.28%
4			3<=WINDEX<=3	3.00	61355	222060	283415	22.02%	1.13	21.65%
5			4<=WINDEX<=4	4.00	97640	173559	271199	21.07%	1.88	36.00%
							1287084	*246503*	*1040581*	
							WSCORE Chi-Square= 79661.250203	**P-Value= 0.00000**		4.62%

1	WSCORE	0<=WSCORE<=0	0.00	10584	218491	229075	17.80%	0.24

Deceased Decile from Low to High		Variable	Similar Deceased Levels	in	Mean Value Level	Responders Deceased	Non-Responders Deceased	Total	Percent Coverage	Index Response Rate divided by Overall 19.1521 %	Percent with Deceased
	3		1<=WSCORE<=1		1.00	36759	236875	273634	21.26%	0.70	13.43%
	4		2<=WSCORE<=2		2.00	40165	189596	229761	17.85%	0.91	17.48%
	5		3<=WSCORE<=3		3.00	33600	129717	163317	12.69%	1.07	20.57%
	6		4<=WSCORE<=22		5.79	125395	265902	391297	30.40%	1.67	32.05%
						246503	*1040581*	1287084			

Diagnostics on 1.5% Sample - PDF Size issue

Full diagnostics on 1.5% sample of 300k

Model	Information
Data Set	REG.REG_BUILDSAVALL
Response Variable	DIE
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	19282
Number of Observations Used	19282

	Response Profile		
	Ordered Value	DIE	Total Frequency
	1	1	3655
	2	0	15627

Probability modeled is DIE=1.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

	Model Fit Statistics	
Criterion	Intercept Only	Intercept and Covariates
AIC	18727.795	15911.828
SC	18735.662	15966.896
-2 Log L	18725.795	15897.828

Full diagnostics on 1.5% sample of 300k

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2827.9676	6	<.0001
Score	3081.3593	6	<.0001
Wald	2376.9113	6	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
INTERCEPT	1	-7.5450	0.3949	365.1171	<.0001
_WINDEX	1	0.5377	0.0469	131.4075	<.0001
_CANCALL	1	0.5890	0.0226	676.3435	<.0001
_AGEBIN	1	0.0697	0.00455	233.9602	<.0001
_DEMENTIA	1	0.8011	0.0483	275.0527	<.0001
_AGE_CHF	1	0.5670	0.0562	101.9482	<.0001
_SEX	1	1.8292	0.3748	23.8209	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
_WINDEX	1.712	1.562	1.877
_CANCALL	1.802	1.724	1.884
_AGEBIN	1.072	1.063	1.082
_DEMENTIA	2.228	2.027	2.449
_AGE_CHF	1.763	1.579	1.968
_SEX	6.229	2.988	12.984

Full diagnostics on 1.5% sample of 300k

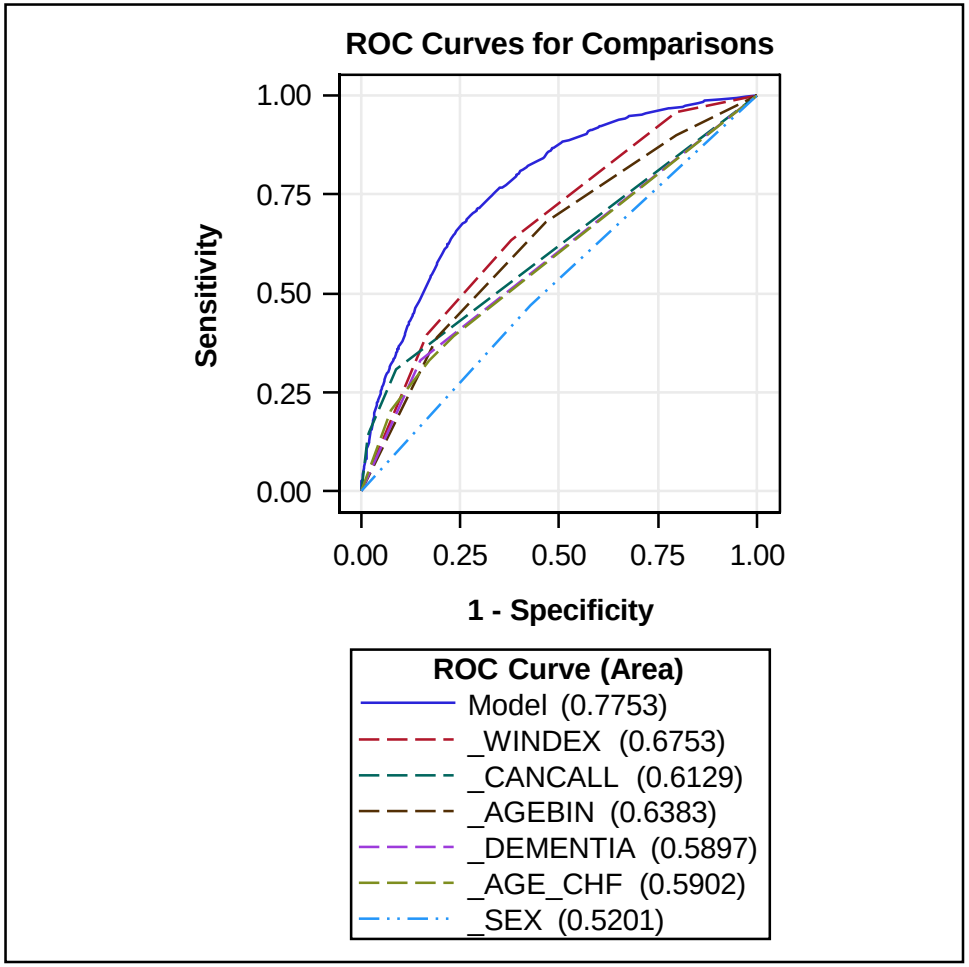
Partition for the Hosmer and Lemeshow Test

Group	Total	DIE = 1		DIE = 0	
		Observed	Expected	Observed	Expected
1	2138	51	106.50	2087	2031.50
2	1490	73	96.36	1417	1393.64
3	1798	88	136.14	1710	1661.86
4	1673	140	151.48	1533	1521.52
5	1920	231	205.52	1689	1714.48
6	1972	272	261.11	1700	1710.89
7	1802	325	309.68	1477	1492.32
8	1775	498	405.07	1277	1369.93
9	1939	661	557.35	1278	1381.65
10	2775	1316	1425.79	1459	1349.21

Hosmer and Lemeshow Goodness-of-Fit Test

Chi-Square	DF	Pr > ChiSq
132.9097	8	<.0001

Full diagnostics on 1.5% sample of 300k



ROC Association Statistics

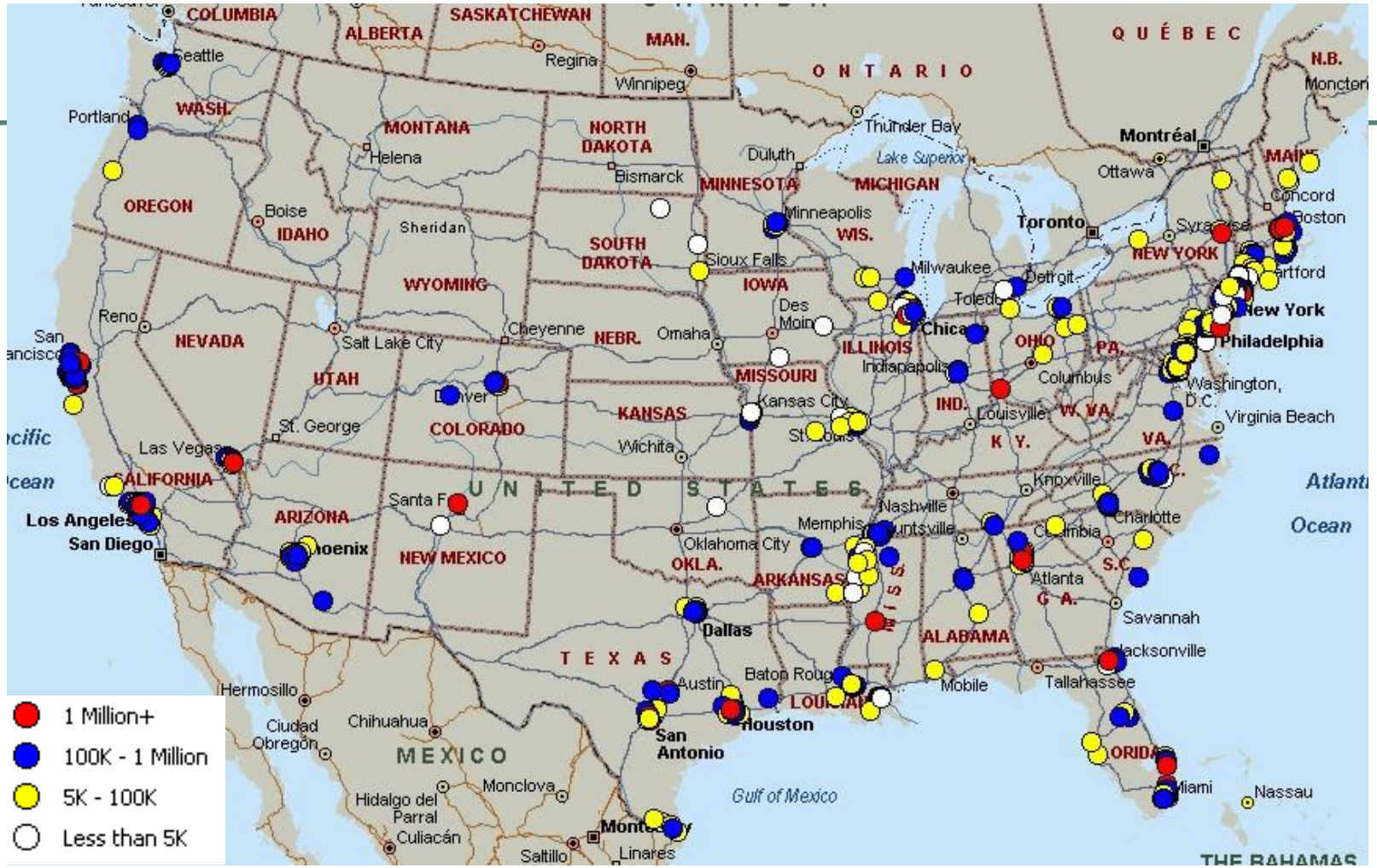
ROC Model	Area	Standard Error	Mann-Whitney 95% Wald Confidence Limits		Somers' D (Gini)	Gamma	Tau-a
Model	0.7753	0.00412	0.7672	0.7834	0.5506	0.5556	0.1692
_WINDEX	0.6753	0.00455	0.6664	0.6842	0.3506	0.4735	0.1077
_CANCALL	0.6129	0.00405	0.6050	0.6208	0.2258	0.6333	0.0694
_AGEBIN	0.6383	0.00492	0.6287	0.6480	0.2766	0.3675	0.0850

Full diagnostics on 1.5% sample of 300k

ROC Association Statistics						
			Mann-Whitney			
ROC Model	Area	Standard Error	95% Wald Confidence Limits		Somers' D (Gini)	Gamma
_DEMENTIA	0.5897	0.00414	0.5816	0.5979	0.1795	0.4713
_AGE_CHF	0.5902	0.00458	0.5812	0.5992	0.1804	0.3588
_SEX	0.5201	0.00458	0.5112	0.5291	0.0403	0.0813

Full diagnostics on 1.5% sample of 300k

Decile 10 Geographic Distribution



Full diagnostics on 1.5% sample of 300k

Decile 10 by Region

TFA Regions	Total	Decile 10	New in Decile 10
MAR	88	13	3
ALB	30	12	4
ALL	2	1	0
ATL	453	67	21
BAL	402	65	29
BAY	888	183	47
BOS	111	20	1
CHA	282	60	7
CHI	1448	150	41
COL	111	18	1
CT	366	164	72
DAL	122	30	10
DC	528	94	32
DEL	770	53	39
DET	2		0
DO	7015	2	2
ENC	319	17	11
GNO	512	89	34
HI	319	23	13
HOU	965	257	120
IND	40	4	0
JAC	40	18	

TFA Regions	Total	Decile 10	New in Decile 10
KCM	71	17	3
LOS	697	149	60
LV	138	9	2
MEM	194	46	1
MIA	358	27	15
MKE	13	1	0
NA	4801	188	128
NC	5		0
NJ	203	28	14
NM	132	1	0
NSH	4		0
NY	1611	292	86
PHI	469	73	11
PHX	633	130	36
RGV	309	13	9
RHI	18	12	0
SAN	57	40	17
SD	355	4	3
SLA	292	34	14
STL	392	113	15
TUL	3	1	0
TWC	168	1	0
Grand Total	25736	2519	902

Full diagnostics on 1.5% sample of 300k

Agenda

- Overview
- Model
- Segmentation
- **Insights & Recommendations**

Full diagnostics on 1.5% sample of 300k

Insights

- **Teach For America has been successful at raising large gifts:**
  - 99% of total giving to Teach For America has come from 12% of the donors in the active file. These represent donors of gifts of $5,000 and above.
- **The three key Teach For America constituencies have unique characteristics:**
  - „Other" are neither alumni or parents, and are the most supportive contributing 99% of all giving. 99% are donors.
  - Parents represent 13% of donors capable of giving at the $100K and above levels, but only 16% are donors.
  - 74% of Alumni are contributors, but only 11% are capable of giving at the $100K level or above.
- **WealthEngine has developed a model for TFA that predicts likelihood of giving at the $5K and above levels:**
  - The model exhibits strong performance including lift and prediction accuracy
  - The variables used in the model are intuitive and demonstrate correct directionality
- **The predictive model and subsequent analysis has uncovered substantial untapped fundraising potential within the TFA active file:**
  - Over 2,519 constituents have a high likelihood to give a gift of $5,000 or above.
  - Of these, 1,585 (63%) have a giving capacity of over $100K.*
  - 902 are newly identified potential leadership, major or principal donors.
- **Geographic Analysis**
  - Results of the analysis have been viewed through a geographic lens.

** Capacity measured over 5 years*

Full diagnostics on 1.5% sample of 300k

Recommendations

- Decile 10 members and those who have given at the $5K level should be the initial fundraising focus
  - 2,519 constituents in decile 10 + 621 donors in deciles 1 through 9
- Divide the above group into new and previously identified and rank order by capacity
  - 2,238 who have given at the $5K level
  - 902 are newly identified
- For previously identified group, confirm ratings and assign prospect manager
  - Compare WealthEngine capacity to internal ratings and confirm
  - Assign top prospects (based on capacity) to appropriate prospect managers
- For the newly identified group, begin validation and research qualification process
  - Assign prospects to appropriate prospect managers as they are qualified
- Consolidate regions where possible
  - Several defined regions have few viable prospects
  - Provide support from National Office where consolidation is not feasible
- Parent and Alumni constituent groups require unique strategies
  - Alumni are qualified primarily at the $5K to $100K and below $5K levels. A strategy to meet these key constituents "where they are," possibly introducing a giving level below $5K, may be warranted.
  - Parents of alumni should be engaged as quickly as possible to maximize potential fundraising benefits
- As the constituent base matures Planned Giving Strategies should be considered
  - 5% of the file has a length of time on the file of 5 years or more and 378 are aged 60 or older