



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

HA.D.5 ✓

JUN 26 1985

OFFICE OF
POLICY, PLANNING AND EVALUATION

Subject: Response to Dupont Critique of Blood Pressure
Papers

From: Joel Schwartz
Office of Policy Analysis *Joel*

To: David Weil
Environmental Criteria and Assessment Office

The enclosed paper on site effects in the NHANES II blood pressure analysis in response to the critique submitted by the Dupont Corporation. Please forward it to Richard Royall and James Ware. I would be glad to meet with them to discuss it further. Dick Landis will be forwarding to you separately his additional analysis, using the Mantel Haensel technique for dealing with the sites, and controlling for age, body mass, and continuous lead exposure.

*Long discussion
on a result
involving all
variables at subject
level of community*

*Most of Schwabady comments re off-nominal
He has a shallow understanding of the
Dupont analysis:*

*Why did he do everything he could to
avoid explaining Dupont's analysis?*

Analyses on strata are only relevant points.

*Need comment on use of complex strata - (Vandalism,
between Psy & 10 strata)*

*Why did he change age groups to 20 years
from 12 years?*

*Analyses
at subject
level*

TEH 0412302

DUP050453354

Blood Lead, Blood Pressure, and Site Effects

✓ This memo addresses the question of whether the relationship between blood lead and blood pressure is confounded by the sampling locations used in NHANES. It consists of several parts. First I discuss some theoretical considerations and results using demographic variables rather than site variables. Second, I discuss the problem of measurement error and misspecification, and the implication of that for the use of site variables. Third, I discuss the results from controlling for individual strata in the analysis, and finally the results using indicator variables for each site.

Indicate
My first point is that the use of 64 dummy variables for analyzing the NHANES data is unreasonable. There are, depending on which variables are entered in the model about 2260 observations without missing values for adult males (age 20 or over) in NHANES. That is an average of 35 persons per location. Using one dummy variable for each 35 persons absorbs a great deal of the variation of both lead and blood pressure, making it difficult to maintain a significant correlation.

Indicate
Moreover, location is obviously not a causal factor in blood pressure. At most it stands for some omitted causal variable which is linked to blood pressure, and varies by site. The most obvious factor is in fact lead. (As my submission to CASAC showed, other strong correlants of blood pressure, such as body mass index, do not vary noticeably between sites.) Given the large number of nutritional, biochemical, personal and demographic factors that we tested, I believe its only reasonable to ask anyone who believes in

TEH 0412303

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N 30984.01

an omitted confounder to at least say what it is, instead of using dummy variables that are known to be confounded with lead.

X
The most obvious things the site variables stand for, besides lead, are demographic factors. Region of the country, income, race, degree of urbanization, educational level, and genetic background (family history of hypertension) all may vary from site to site. However, forcing all of these factors into the regression model affects neither the magnitude nor the significance of the lead effect, strongly suggesting that the sites are only proxies for lead.

Not relevant to the point being made
Not relevant to the point being made
Moreover, using dummy variables for each site presumes the sites to be fixed effects, whereas by the design of the NHANES, they are random effects, each being chosen from a large number of candidate PSU's. Thus, Dupont's treatment of sites was incorrect. Ignoring that problem, it is one thing to test whether there are unexplained differences in blood pressure between locations, and another to force terms for those locations into a model, whether or not significant, just to reduce the correlation between blood pressure and lead. Dupont's memo fails to mention that almost all of the site variables are insignificant. I will return to this point when I go over my results using site indicators.

One final general point that needs clarification is that, contrary to the claims of the Dupont memo, there are not, in fact, 64 sites in NHANES. There are 32 strata, with two psuedo-sampling units each, for constructing variance estimates, but some of the

TEH 0412304

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64 sites have wide
separately

cities visited comprise more than one PSU. There are three sites sampled in the New York SMSA, and two in the Chicago SMSA. Moreover the two PSU's for Los Angeles are not even geographically distinct parts of the metropolitan area. Rather the clusters of eight households were alternately assigned to the two PSU's for Los Angeles without regard to location. Thus, only 60 county or metropolitan areas were actually sampled.

1st visit
2nd visit
3rd visit
4th visit
5th visit
6th visit
7th visit
8th visit
9th visit
10th visit

One major concern over using these locational variables [in the absence of any biologically plausible factor (other than lead) being associated with them] is the issue of measurement error and mispecification of variables. One impressive thing about the robustness of the relationship between blood lead and blood pressure to alternate specifications of biological variables is that both variables are noisy measures. The coefficient of variation of blood lead on the blind quality control pools was about 15% on the low pool and 8% on the high pool. Blood pressure is also a noisy measurement. Noise in the two variables downwardly biases estimated coefficients and significance levels. In addition, the blood lead measurement is only a proxy for the tissue lead concentrations, which is what effects the vascular smooth muscle. While in general blood lead levels parallel tissue lead levels, there are spontaneous fluctuations in the partitioning of lead between blood and soft tissue. Thus, some of the variation in blood lead does not represent variation in soft tissue lead. The correlation coefficient between blood lead and lead excreted after provocative EDTA testing is about 0.8.

TEH 0412305

Obviously lead is still significant in all of our regressions despite these variances. However, the use of 64 site dummies in the model can interact with this problem in two ways. First, just the presence of 1 variable for each 35 people can explain a lot of the variance of both blood lead and blood pressure, exacerbating the problem of a significant amount of the variance of the two variables not representing true variance. Secondly, the fact that blood lead levels fell over time and varied seasonally means that a larger proportion of the between site variance in blood lead is true variance in underlying body burden, and a greater proportion of the within site variance is measurement error and spontaneous fluctuation in partitioning. This is particularly true because each PSU was measured over a 6 week period. PSU dummies thus eliminate both seasonal as well as temporal variation in blood lead. Thus, a significant downward bias is introduced by inserting in the model a large number of dummy variables more highly correlated with the true variance in body lead burdens than with the measurement error and misspecification of body lead burden.

Notwithstanding these points, I have performed a number of analyses that I believe demonstrate that the lead-blood pressure relationship is not due to locational effects. First, as noted above, I have rerun the regression with variables for region of the country, degree of urbanization, income, educational level, residence in central city, and poverty index. The results, shown on Table 2, indicate that lead has the same coefficient and significance level as it has on Table 1, showing the baseline model.

DuPont is not trying to explain site effects only recognizing they're present + need to be accounted for in analysis.

TEH 0412306

Why didn't you look at the NHANES II Survey?

Secondly, I have included dummy variables for each of the 32 strata in the NHANES II Survey. The NHANES II Survey has 8 sampling strata from each region of the country. Each of the strata represent counties with similar populations. Besides size and region, the other criteria used to group candidate PSU's into strata were median income, percent below poverty level, rate of growth, and percent hispanic or of races other than white.

no

There are two PSU's from each strata in the NHANES sample. Thus, the strata differ from each other on region, urbanization and other demographic factors, but the two PSU's in each strata are matched on those factors. The use of strata dummies rather than site dummies should adequately represent the different locational and demographic factors the strata represent while reducing the collinearity with lead from using a variable for every site. The results are shown on Table 3. As indicated in the table, lead is still significantly related to blood pressure, with only minor changes in the magnitude of its coefficient.

X

The fact that lead is still significant even after controlling for all 32 strata suggests that site effects are not confounding lead's relationship to blood pressure. However, as the next step in my analysis, I have created dummy variables for each site, and then used maximum R^2 stepwise regression to select those sites where blood pressure was significantly different. This approach allows site variables to come in when they contribute to R^2 and the site blood pressure is significantly different from the intercept. Unlike the Dupont approach, it does not force insignificant site.

diff. in philosophy here. better approach but which?

TEH 0412307

variables into the regression model. Essentially, this approach says that some sites may be unusual, but does not assert a priori that they are. It still over controls for sites in that out of 64 PSU's, 3 to 4 will be significant by chance alone. The results of this stepwise regression are shown on table 4. As indicated lead is still significantly related to blood pressure after controlling for all significant site effects.

Finally, sites were also selected by backwards elimination. The results at step 0 and after all elimination, are shown in tables 5 and 6. They show again that lead was significantly related to blood pressure in the final model, and that lead was in fact significantly related to blood pressure in the initial model with 62 PSU variables. (one PSU is in the intercept, and one PSU was completely collinear with the other variables and had a coefficient of zero. Given a dozen or so nonlocational variables and an average site sample of 35 with some sites only having 15 persons sampled, this is not surprising). The fact that lead was significant when controlling for 63 sites, and most of the sites were not significant, should surely settle the matter of the robustness of this relationship. For completeness, I have run similar regressions using just 40-59 year olds. Table 7 shows the results of the basic model, Table 8 shows results using 32 strata as variables, Table 9 shows the results using maximum R² stepwise regression and dummies for all PSU's. Table 10 shows the results of forcing all locations in the model. In all cases, lead is significantly related to blood pressure.

TEH 0412308

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DISCUSSION

Several comments occur to me. First, the blood pressure relationship is essentially unchanged when controlling for all of the demographic factors that were insignificant. Second, that at all stages of the analysis, the systolic blood pressure seems less sensitive. This may be because there is less measurement error in systolic blood pressure, which gets back to the mismeasurement point I raised earlier. It is noteworthy that the 40-59 year old subgroup, where age is less of a confounder, is also less sensitive, there is very little change in the regressions with strata dummies, and the size of the coefficient of lead does not decrease as much when all of the PSU's are entered as it does in the regressions on all adult males. This reminds me of the fact that in primitive cultures (e.g bushmen, pacific islanders) blood pressure does not increase with age. The effects being assigned to age are in fact not due to the natural aging process, but in fact merely represents the cumulative damage done to the cardiovascular system by other, causal factors, in industrialized society. Lead may well be one of these factors that age is standing for.

TEH 0412309

DUP050453361

TABLE 1

BASELINE REGRESSION RESULTS FOR ALL MEN OVER 20

SYSTOLIC AND DIASTOLIC BLOOD PRESSURE

NOTE: FAMHYPER means family history of hypertension

HYPERMED means on hypertensive medication

TEH 0412310

DUP050453362

N 30984.02

DEP VARIABLE: BP201A

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	19	20041354.2	1054808.15	44.042	0.0001
ERROR	2227	5333679139	2395006		
C TOTAL	2246	7337814621			
ROOT MSE		1547.581	R-SQUARE	0.2731	
DEP MEAN		62.345996	ADJ R-SQ	0.2669	
C.V.		1879.364			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	91.550710	32.734631	2.797	0.0052
AGEYRS	1	0.850640	0.104768	8.119	0.0001
AGESQ	1	-0.00602697	0.001136318	-7.064	0.0001
BMI	1	0.734661	0.075359	9.749	0.0001
LOGZINC	1	-30.074511	9.075365	-4.063	0.0001
LOGVITC	1	1.151225	0.271048	4.247	0.0001
ALBSQ	1	0.004211636	0.0008561218	4.919	0.0001
LSCHOL	1	3.600158	1.118963	3.217	0.0013
SMOKNUM	1	-0.053137	0.016847	-3.154	0.0016
CALCIUM	1	0.0000173512	7.63875E-07	2.271	0.0232
DIETVITC	1	-0.010056	0.002716771	-3.702	0.0002
ZINC	1	0.533672	0.097705	5.415	0.0006
HEMOGLOB	1	0.125575	0.021707	5.765	0.0001
TRICEPR	1	0.011794	0.004114602	2.866	0.0042
FAMHYPER	1	2.187936	0.443650	4.929	0.0001
COFFEE	1	-0.237475	0.070291	-3.379	0.0007
HEIGHT	1	10.414458	3.220522	4.477	0.0001
HYPERHED	1	5.439728	0.826724	6.580	0.0001
RACE	1	2.447658	0.614261	3.983	0.0009
LL	1	2.956095	0.625761	4.724	0.0001

TEH 0412311

DUP050453363

DEP VARIABLE: BP2SYS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	11	4025638411	365467128	62.011	0.0001
ERROR	2235	13190158387	5901637		
C TOTAL	2246	17215796798			
ROOT MSE		2429.328	R-SQUARE	0.2338	
DEP MEAN		128.274	ADJ R-SQ	0.2301	
C.V.		1893.604			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	65.931972	13.476665	4.892	0.0001
AGEYRS	1	-0.450810	0.157323	-2.866	0.0042
AGESU	1	0.008494950	0.001730831	5.139	0.0001
BMI	1	1.278647	0.088606	14.431	0.0001
LOGZINC	1	-6.296692	2.147299	-3.864	0.0001
ALBSU	1	0.008256370	0.001296074	6.380	0.0001
CALCIUM	1	0.0000271480	0.0000119754	2.267	0.0235
COFFEE	1	-0.373316	0.105368	-3.543	0.0004
FAMHYPER	1	3.313669	0.696280	4.759	0.0001
HEIGHT	1	18.469517	5.003067	3.692	0.0002
HYPERHED	1	2.705500	1.245453	2.174	0.0001
LL	1	5.231075	0.450371	11.615	0.0001

TEH 0412312

DUP050453364

TABLE 2

ALL MEN OVER 20

RESULTS WITH INCOME, EDUCATIONAL LEVEL,

REGION OF THE COUNTRY, AND DEGREE OF URBANIZATION

NOTE: R1 means northeast

R2 means midwest

R3 means south

West is in the intercept

SIZE means degree of urbanization coded 1(cities over 3 million) to 8(rural areas under 2500)

ED means educational level (didn't finish grade school, finished grade school, finished high school, finished college)

INCOME (under 5000, 5-15,000, over 15,000)

TEH 0412313

DUP050453365

N 30984.03

DEP VARIABLE: BP2DIA

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	25	1909469779	76378791	32.066	0.0001
ERROR	2132	5078222076	2381905		
C TOTAL	2157	6987691855			
ROUT MSE		1543.342	R-SQUARE	0.2733	
DEP MEAN		82.384043	ADJ R-SQ	0.2647	
C.V.		1873.351			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	91.369334	33.409495	2.735	0.0063
AGEYRS	1	0.837379	0.111064	7.540	0.0001
AGESQ	1	-0.00794721	0.001209821	-6.569	0.0001
BMI	1	0.774103	0.077870	9.941	0.0001
LOGZINC	1	-36.269564	9.248763	-3.922	0.0001
LOGVITC	1	1.230624	0.276099	4.457	0.0001
ALBSQ	1	0.004013976	0.0009811767	4.555	0.0001
LSCHOL	1	3.277838	1.135349	2.887	0.0039
SODIUM	1	-0.055426	0.017151	-3.232	0.0012
CALCIUM	1	0.0000175909	7.76634E-07	2.265	0.0236
DIETVITC	1	-0.010493	0.002743141	-3.825	0.0001
ZINC	1	0.329977	0.099399	3.320	0.0009
HEMOGLOB	1	0.127723	0.022243	5.742	0.0001
TRICEPH	1	0.010674	0.004240361	2.517	0.0119
FAMHYPER	1	2.263054	0.451116	5.017	0.0001
COFFEE	1	-0.215581	0.071272	-3.025	0.0025
HEIGHT	1	15.163679	3.370163	4.499	0.0001
HYPERMED	1	5.011146	0.842645	5.947	0.0001
RACE	1	2.226243	0.860056	2.821	0.0048
LL	1	2.969793	0.656125	4.526	0.0001
R1	1	-0.792050	0.640721	-1.236	0.2165
R2	1	-0.321007	0.622316	-0.516	0.6060
R3	1	-0.253648	0.628576	-0.404	0.6866
SIZE	1	-0.035986	0.088179	-0.408	0.6832
INCOME	1	-0.359480	0.363202	-0.990	0.3224
ED	1	-0.489642	0.348652	-1.404	0.1603

TEH 0412314

DEP VARIABLE: BP2SYS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	17	3902349530	229549973	39.438	0.0001
ERROR	2140	12455895216	5820512		
C TOTAL	2157	16358244753			
ROOT MSE		2412.574	R-SQUARE	0.2386	
DEP MEAN		128.345	ADJ R-SQ	0.2325	
C.V.		1879.177			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	73.513300	13.878348	5.297	0.0001
AGEYRS	1	-0.418313	0.167108	-2.503	0.0124
AGESW	1	0.008458908	0.001840373	4.596	0.0001
BMI	1	1.259153	0.090529	13.909	0.0001
LOGZINC	1	-8.841736	2.195378	-4.027	0.0001
ALBSW	1	0.008441756	0.001331242	6.341	0.0001
CALCIUM	1	0.0000275794	0.0000121252	2.275	0.0230
COFFEE	1	-0.414426	0.106849	-3.879	0.0001
FAMILYPER	1	3.091743	0.704729	4.387	0.0001
HEIGHT	1	16.796596	5.212663	3.222	0.0013
HYPERTEN	1	8.313200	1.314970	6.322	0.0001
LL	1	4.649709	0.993671	4.679	0.0001
K1	1	1.417416	0.994097	1.426	0.1541
K2	1	3.329082	0.963425	3.455	0.0006
K3	1	-0.168257	0.969655	-0.174	0.8623
SIZE	1	0.301996	0.134209	2.250	0.0245
INCOME	1	-0.298310	0.563999	-0.529	0.5969
ED	1	-1.129133	0.536051	-2.106	0.0353

TEH 0412315

TABLE 3

ALL MEN OVER 20

CONTROLLING FOR SAMPLING STRATA

TEH 0412316

DUP050453368

N 30984.04

DEF VARIABLE: EPIDIA

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	50	2410661977	48213240	21.488	0.0001
ERROR	2196	4927152644	2243694		
C TOTAL	2246	7337814621			
ROOT MSE		1497.897	R-SQUARE	0.3285	
DEF MEAN		82.345996	ADJ R-SQ	0.3132	
C.V.		1819.028			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	82.452509	31.897330	2.5712	0.0067
AGEYRS	1	0.872838	0.102089	8.217	0.0001
AGESS	1	-0.00792347	0.001105993	-7.164	0.0001
BMI	1	0.770175	0.073849	10.429	0.0001
LOGTIME	1	-70.925060	8.855353	-7.718	0.0002
LOGVITC	1	1.214295	0.266041	4.564	0.0001
ALSSD	1	0.004686976	0.0008470483	5.531	0.0001
LSCHOL	1	2.745590	1.099394	2.501	0.0125
SMOCHUM	1	-0.045182	0.016497	-2.800	0.0081
CALCIUM	1	0.0000142472	7.445745E-07	1.908	0.0565
DIETVITC	1	-0.010167	0.002658499	-3.824	0.0001
ZINC	1	0.270774	0.095351	3.050	0.0023
HEMOGLOB	1	0.114438	0.021696	5.275	0.0001
TRIDEP	1	0.010748	0.004041507	2.660	0.0105
FAMHYPER	1	2.053254	0.435107	4.723	0.0001
COFFEE	1	-0.212733	0.068890	-3.089	0.0020
HEIGHT	1	10.117282	3.14780	4.149	0.0001
HYPERMED	1	5.469399	0.607048	6.777	0.0001
RACE	1	2.713463	0.843319	3.221	0.0013
LOC1	1	-2.204078	1.137684	-1.934	0.0532
LOC2	1	0.806139	1.160206	0.692	0.4814
LOC3	1	4.057555	1.199924	3.381	0.0007
LOC4	1	3.697475	0.990936	3.731	0.0002
LOC5	1	-1.140254	1.243662	-0.917	0.3592
LOC6	1	-0.587292	1.245955	-1.922	0.0547
LOC7	1	0.104936	1.295700	0.081	0.9355
LOC8	1	-2.640254	1.341733	-2.535	0.0117
LOC9	1	3.245974	1.228225	2.641	0.0093
LOC10	1	2.078752	1.224880	1.697	0.0895
LOC11	1	0.520494	1.065633	0.489	0.6249
LOC12	1	-2.249564	1.115000	-2.018	0.0435
LOC13	1	4.244303	1.361645	3.117	0.0019
LOC14	1	-5.042127	1.136732	-4.700	0.0001
LOC15	1	3.052235	1.238253	2.465	0.0138
LOC16	1	-4.163947	1.319138	-3.157	0.0016
LOC17	1	3.127097	0.992209	3.152	0.0016
LOC18	1	2.110825	1.241902	1.700	0.0897
LOC19	1	0.247288	1.315814	0.188	0.8509
LOC20	1	-1.347581	1.164800	-1.157	0.2474
LOC21	1	6.710996	1.293417	5.189	0.0001
LOC22	1	-1.330472	1.125165	-1.200	0.2302
LOC23	1	-1.345455	1.171221	-1.166	0.2458
LOC24	1	-4.246555	1.658571	-2.562	0.0105
LOC25	1	-4.604568	1.115387	-4.128	0.0001
LOC26	1	3.585606	1.630431	2.914	0.0026
LOC27	1	-1.698953	1.189255	-1.429	0.1533
LOC28	1	0.468024	0.995532	0.470	0.6383
LOC29	1	0.806836	1.216508	0.417	0.6770
LOC30	1	-0.221643	1.245761	-0.178	0.8588
LOC31	1	-1.031180	1.218031	-0.847	0.3973
LOC32	1	-2.163910	1.063825	-2.034	0.0421
LL	1	2.217851	0.647621	3.425	0.0006
RESIDUAL	-1	5.57207E-07			1.0000

TEH 0412317

DUP050453369

DEF VARIABLE: BF2SYS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	42	4721760376	112422866	19.832	0.0001
ERROR	2204	12494036422	5668801		
C TOTAL	2246	17215796798			
ROOT MSE		2380.924	R-SQUARE	0.2743	
DEF MEAN		128.274	ADJ R-SQ	0.2604	
C.V.		1856.128			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
INTERCEP	1	72.651416	13.442201	5.405	0.0001
AGEYRS	1	-0.454229	0.155397	-2.923	0.0035
AGESQ	1	0.006859766	0.001707302	3.189	0.0001
BMI	1	1.256657	0.087671	14.334	0.0001
LOGZINC	1	-8.893992	2.137958	-4.160	0.0001
ALBSQ	1	0.006476816	0.001304348	6.622	0.0001
CALCIUM	1	0.00000215691	0.00000118527	1.820	0.0689
COFFEE	1	-0.347059	0.104995	-3.305	0.0010
FAMHYPER	1	3.311628	0.691076	4.792	0.0001
HEIGHT	1	17.428677	4.973843	3.504	0.0005
HYPERMED	1	8.397995	1.279889	6.562	0.0001
LOC1	1	-3.651484	1.757160	-2.078	0.0378
LOC2	1	-3.830103	1.826635	-2.097	0.0361
LOC3	1	5.889649	1.898765	3.102	0.0019
LOC4	1	2.616794	1.562940	1.676	0.0940
LOC5	1	-2.646423	1.959755	-1.452	0.1465
LOC6	1	-4.751148	2.127933	-2.233	0.0257
LOC7	1	4.710306	2.053041	2.394	0.0219
LOC8	1	-0.468897	1.647451	-0.285	0.7760
LOC9	1	2.774705	1.941981	1.429	0.1532
LOC10	1	0.568742	1.933437	0.294	0.7687
LOC11	1	-1.065997	1.696109	-0.640	0.5221
LOC12	1	1.769556	1.769383	1.000	0.3174
LOC13	1	5.318631	2.148333	2.476	0.0134
LOC14	1	-6.238360	1.800275	-3.465	0.0005
LOC15	1	-0.948343	1.962503	-0.483	0.6290
LOC16	1	-3.571559	2.092310	-1.707	0.0880
LOC17	1	-0.613658	1.571650	-0.390	0.6962
LOC18	1	5.248115	1.925401	2.670	0.0076
LOC19	1	1.633871	2.060980	0.890	0.3737
LOC20	1	-1.008580	1.845447	-0.547	0.5848
LOC21	1	3.268042	2.034765	1.115	0.2651
LOC22	1	-3.370599	1.780352	-1.893	0.0585
LOC23	1	-3.747147	1.843723	-2.032	0.0422
LOC24	1	2.215146	2.628885	0.843	0.3995
LOC25	1	-2.288679	1.762717	-1.298	0.1943
LOC26	1	5.201344	1.951021	2.666	0.0077
LOC27	1	-7.030300	1.887161	-3.725	0.0002
LOC28	1	-3.999159	1.563444	-2.558	0.0106

17:34 FRIDAY, JUNE 21, 1985 5

SAS

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
LOC29	1	2.065686	1.926394	1.072	0.2837
LOC30	1	8.610894	1.973966	4.362	0.0001
LOC31	1	0.269317	1.928927	0.140	0.8890
LOC32	1	-1.912363	1.682934	-1.136	0.2559
LL	1	4.564323	0.986449	4.627	0.0001
RESTRICT	-1	-0.000003387			1.0000

TEH 0412318

DUP050453370

TABLE 4

ALL MEN OVER 20

USING MAXIMUM R-SQUARE STEPWISE REGRESSION TO SELECT
SIGNIFICANT PSU'S

TEH 0412319

DUP050453371

N 30984.05

SAS

12:10 FRIDAY, MAY 28, 1

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE BP2DIA

LDC36 ENTERED

R SQUARE = 0.36153927

C(1) = 51.07217816

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	43	2653522332.15716170	61709821.67807352	29.04	0.0001
ERROR	2205	4645991042.94539200	2125166.00587093		
TOTAL	2248	7339513375.10255400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	95.00405196				
AGEYRS	0.79636075	0.09923520	136861410.53998632	64.40	0.0001
AGESQ	-0.00744679	0.00107597	101795153.11394582	47.90	0.0001
BMI	0.76413219	0.07178647	253563176.95916853	119.31	0.0001
LOGZINC	-33.63520444	8.57486040	33084444.68327499	15.57	0.0001
LOGVITC	1.16841345	0.25627024	43494769.61517487	20.47	0.0001
ALHSC	0.00472567	0.00062226	70194276.54811149	33.03	0.0001
LSCNOL	2.91528584	1.06878214	15811632.35707536	7.44	0.0064
SMOKNUM	-0.04244121	0.01598485	14981357.56581600	7.05	0.0080
DIETVITC	-0.00969159	0.00258298	29918638.75090298	14.08	0.0002
ZINC	0.31263816	0.09227883	24393422.05710635	11.48	0.0007
HEMOGLOB	0.10123470	0.02098862	89459470.47064224	23.27	0.0001
TRICEPR	0.01031993	0.00392564	14683935.74390665	6.91	0.0086
FAMHYPER	1.95766808	0.42174006	45791119.44136249	21.55	0.0001
COFFEE	-0.20710116	0.06670595	20484660.40841942	9.64	0.0019
HEIGHT	11.63676063	3.06541442	30625256.78890515	14.41	0.0002
HYPERMED	5.45115154	0.78226990	103187278.05479278	48.55	0.0001
RACE	2.15983264	0.78246140	18192250.60654485	7.62	0.0058
LOC1	-2.43331235	1.43678242	8857632.68117221	4.17	0.0413
LOC4	3.84735982	1.28516443	19045288.84786062	8.96	0.0028
LOC5	-3.73109954	1.68226048	10453941.05213883	4.92	0.0247
LOC12	-5.16041637	1.58519215	22521562.80121089	10.60	0.0011
LOC13	5.41149962	1.57379973	25126337.68960849	11.82	0.0006
LOC14	-10.15976671	1.48936222	98491654.39036542	46.53	0.0001
LOC15	3.70569778	1.76947757	9320575.58391400	4.39	0.0334
LOC16	-6.13918590	1.64331798	29660004.61388880	13.96	0.0002
LOC17	6.92450220	1.44416977	48857751.62134628	22.99	0.0001
LOC20	-5.41471524	1.61515254	23884547.47237063	11.24	0.0008
LOC21	9.67215943	1.64807889	73195395.18135857	34.44	0.0001
LOC26	7.46131366	1.81703570	35434102.69019053	16.86	0.0001
LOC28	3.77902952	1.22290500	20294015.48641908	9.55	0.0020
LOC31	-5.69935596	1.66806178	24809622.88794501	11.67	0.0006
LOC32	-3.51313037	1.44053647	12639586.86053442	5.95	0.0148
LOC35	6.21849088	1.55459254	34003976.54093925	16.00	0.0001
LOC36	3.12137175	1.55247571	8590812.19565778	4.04	0.0445
LOC40	-4.83491069	1.64341433	18343976.65726367	8.66	0.0033
LOC41	4.27284700	1.65028719	4246510.00593707	6.70	0.0097
LOC42	4.97799141	2.38830011	9232585.70616249	4.34	0.0372
LOC55	-3.15187028	1.55511709	8729740.84374551	4.11	0.0428
LOC56	-4.33254940	1.67363853	14241468.46847252	6.70	0.0097
LOC57	-6.12089187	1.48734344	35991481.63852198	16.94	0.0001
LOC60	-6.46022773	1.73657756	33165118.90450663	15.81	0.0001
LOC63	3.81493489	1.76860635	9885679.88326221	4.65	0.0311
LL	1.70399315	0.61640804	16240219.95234127	7.64	0.0058

THE BEST 43 VARIABLE MODEL FOUND.

First
variable
added.

TEH 0412320

DUP050453372

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE BP2SYS

RIABLE LOC37 ENTERED

R SQUARE = 0.31648477

C(P) = 42.72525422

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	36	5478210201.23355700	152172505.58982104	28.53	0.0001
ERROR	2218	11831343861.26021600	5334239.79317413		
TOTAL	2254	17369554062.49377400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	70.72071174				
AGEYRS	-0.52524541	0.15008414	65332223.9019389	12.25	0.0005
AGE80	0.00981728	0.00165136	188526653.4406692	35.34	0.0001
BMI	1.25885879	0.08494613	1171492179.4452422	219.62	0.0001
LOGZINC	-7.61450612	2.07475293	71849302.8185928	13.47	0.0002
ALBSQ	0.00938173	0.00125711	297093516.6203599	55.70	0.0001
FAMHYPER	2.89616936	0.66833522	100168633.5099637	18.78	0.0001
COFFEE	-0.32514070	0.10155099	54682320.5653969	10.25	0.0014
HEIGHT	17.41259997	4.79208114	70428987.7632423	13.20	0.0003
HYPERMED	8.81774773	1.23211272	273207059.8974883	51.22	0.0001
LOC1	-5.05799956	2.26926617	26500815.0335294	4.97	0.0259
LOC2	-6.43573692	2.23541823	44213156.8232307	8.29	0.0040
LOC7	7.80495115	2.54850116	50110086.8568416	9.39	0.0022
LOC11	5.73489391	2.34530062	31895269.2641595	5.98	0.0146
LOC13	5.53502430	2.48556572	26452157.3201154	4.96	0.0241
LOC14	-12.91104987	2.34817211	161263395.1819277	30.23	0.0001
LOC20	-7.16993634	2.54937125	42192665.8359242	7.91	0.0050
LOC21	8.07026059	2.60113260	51347697.8834434	9.63	0.0019
LOC26	10.39217117	2.87446354	69722268.5689034	13.07	0.0003
LOC27	-9.04746557	2.52274032	68616419.3105474	12.86	0.0003
LOC31	-6.57784567	2.62610255	33469529.5140034	6.27	0.0123
LOC35	9.43078211	2.42857737	80438519.7964041	15.08	0.0001
LOC37	-5.81753714	2.90434613	21401988.1885769	4.01	0.0453
LOC38	-8.66129714	2.70930687	54515752.8891023	10.22	0.0014
LOC40	-8.61341363	2.59154548	56925797.7400701	11.05	0.0009
LOC43	-10.50593552	2.44744807	98271287.6856232	18.43	0.0001
LOC47	-5.84179383	2.75016591	24068398.5986187	4.51	0.0338
LOC48	-8.77963131	3.48648762	33825859.2501227	6.34	0.0119
LOC49	-5.51412043	2.10323158	36664928.2728585	6.87	0.0088
LOC53	-8.69095089	3.21790474	38909957.7214296	7.29	0.0070
LOC55	-7.29522917	2.45217492	47211469.6060111	8.85	0.0030
LOC57	-5.40359091	2.33973982	28451313.9924937	5.33	0.0210
LOC59	-7.04115687	2.83576252	32886742.5852379	6.17	0.0131
LOC60	-11.29346965	2.74273921	90439527.3614780	16.95	0.0001
LOC62	17.22286689	2.92761063	184610668.2695818	34.61	0.0001
LOC63	5.77678015	2.79658174	22760886.9034142	4.27	0.0390
LL	3.66204138	0.94366995	80330187.2186214	15.06	0.0001

DEL IS THE BEST 36 VARIABLE MODEL FOUND.

TEH 0412321

DUP050453373

TABLE 5

ALL MEN OVER 20

BACKWARDS STEPWISE REGRESSION USING PSU DUMMIES

STEP 0 ALL DUMMIES IN

TEH 0412322

DUP050453374

N 30984.06

12:10 FRIDAY, MAY 21

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2DIA

OBSERVATIONS DELETED DUE TO MISSING VALUES.

VARIABLES ENTERED R SQUARE = 0.37454826 C(P) = 82.00000000

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	81	2749001957.64870830	33938295.77344084	16.02	0.0001
ERROR	2167	4596511417.45384500	2118371.67395194		
TOTAL	2248	7339513375.10255400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	91.74114528				
AGEYRS	0.79320104	0.09980927	133791011.87569510	63.16	0.0001
AGE50	-0.00743917	0.00108159	180217772.30811822	47.31	0.0001
BMI	0.78656074	0.07293925	286345217.16671210	116.29	0.0001
LOGZINC	-33.71997432	8.68894097	31903838.43016373	15.06	0.0001
LOGVITC	1.18060155	0.26102274	43336332.60228883	20.46	0.0001
ALBSQ	0.00511053	0.00054392	77683353.23603040	36.67	0.0001
LSCMOL	3.09485436	1.00424669	17259427.26722727	8.15	0.0044
SMOKNUM	-0.04452715	0.01619151	16020547.33670382	7.56	0.0060
CALCIUM	0.00000126	0.00000073	6346829.82386690	3.00	0.0836
DIETVITC	-0.01021942	0.00262054	32209842.96630933	15.21	0.0001
ZINC	0.30715342	0.09344631	22886983.42529907	10.80	0.0010
HEMOGLOB	0.10282666	0.02170577	87540453.91677050	22.44	0.0001
TRICEPR	0.01046569	0.00398839	14586771.48270693	6.89	0.0087
FAMHYPER	1.91788655	0.42838161	82460582.86052243	20.04	0.0001
COFFEE	-0.17724012	0.06759458	14584732.78723311	6.88	0.0088
HEIGHT	11.93520411	3.10652691	31268879.37391137	14.76	0.0001
HYPERMED	5.43928007	0.76763649	100974758.59702622	47.67	0.0001
RACE	2.26886253	0.85084016	15303610.65250747	7.22	0.0072
LOC1	-1.86147258	2.08451479	1689294.94418625	0.80	0.3720
LOC2	1.43266563	2.09227058	1807586.68119535	0.85	0.3557
LOC3	1.88184526	2.43581936	1264386.42690618	0.60	0.4390
LOC4	4.62554106	1.98309036	11525034.47711854	5.44	0.0198
LOC5	-2.51191838	2.25649388	2625094.16820101	1.24	0.2657
LOC6	-2.91953016	2.65399943	2563652.58617383	1.21	0.2714
LOC7	3.09123968	2.21080521	4141584.82675127	1.96	0.1622
LOC8	-0.46067165	2.03386345	108677.97617729	0.05	0.8208
LOC9	3.11754974	2.38166567	3629671.72395379	1.71	0.1907
LOC10	1.64296685	2.08857748	1310866.85802038	0.62	0.4316
LOC11	1.20631630	2.10513054	695611.08041284	0.33	0.5667
LOC12	-4.20293304	2.18511893	7837131.02066478	3.70	0.0546
LOC13	6.37919557	2.18719798	18020125.06867241	8.51	0.0036
LOC14	-9.01942909	2.12511090	81618663.21762163	19.65	0.0001
LOC15	4.73371443	2.33069992	8738432.75118121	4.13	0.0420
LOC16	-5.25076043	2.22588932	11787981.23296685	5.56	0.0184
LOC17	7.87026897	2.08446458	30198979.80364389	14.26	0.0002
LOC18	2.78309191	2.53621187	2550857.48886983	1.20	0.2726
LOC19	0.51184212	2.57289619	83848.86924832	0.04	0.8423
LOC20	-4.56640575	2.20525023	9083127.37387610	4.29	0.0385
LOC21	10.59041448	2.24912005	86968079.48321720	22.17	0.0001
LOC22	0.46859431	2.12238727	112266.37454559	0.05	0.8180
LOC23	1.55910552	2.33621612	943467.94329254	0.45	0.5046
LOC24	0.00000000	0.00000000	0.00000000	0.00	1.0000
LOC25	-1.68005963	2.26334607	1167211.68978538	0.55	0.4580

TEH 0412323

DUP050453375

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12:10 FRIDAY, MAY

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE SP2DIA

LOC26	8.39099735	2.37408981	26462754.15086970	12.49	0.0004
LOC27	-1.56391670	2.19434368	1076019.39356665	0.51	0.4761
LOC28	4.70920311	1.94546342	12407157.59557122	5.86	0.0156
LOC29	3.79096764	2.21613047	6198923.10592383	2.93	0.0673
LOC30	-0.67297333	2.27288169	185713.81480948	0.09	0.7672
LOC31	-4.61339057	2.24208615	8964875.91386712	4.23	0.0397
LOC32	-2.52377075	2.07749035	3126251.66562093	1.48	0.2246
LOC33	-0.27818363	2.37771476	28996.51441109	0.01	0.9069
LOC34	0.62444713	2.51372081	130725.23167610	0.06	0.8038
LOC35	7.16305094	2.17309587	23014562.78535103	10.87	0.0010
LOC36	4.11644044	2.16351809	7668753.38640462	3.62	0.0572
LOC37	3.01058646	2.37997991	3389672.85801282	1.60	0.2060
LOC38	-0.82234073	2.30259160	270191.65422099	0.13	0.7210
LOC39	-2.93155628	2.66328014	2566639.84529623	1.21	0.2711
LOC40	-3.82903195	2.22618472	6766971.89153571	2.96	0.0856
LOC41	5.28288910	2.23676559	11816917.48600074	5.58	0.0183
LOC42	6.00760677	2.82046594	9610886.25976619	4.54	0.0333
LOC43	1.58239608	2.15317204	1144129.26991566	0.50	0.4625
LOC44	1.37425389	2.18624443	836566.24329653	0.39	0.5298
LOC45	2.27164563	3.12608938	1118614.76236913	0.53	0.4675
LOC46	2.33360549	2.32222255	2139190.00411909	1.01	0.3151
LOC47	3.08727601	2.30016597	3816231.66110508	1.80	0.1797
LOC48	-0.72162759	2.67928310	153670.74791953	0.07	0.7877
LOC49	0.40774493	2.02599656	85802.88735294	0.04	0.8405
LOC50	3.15217222	2.17103585	4465684.59448907	2.11	0.1467
LOC51	1.68514170	2.26093929	1176785.23270472	0.56	0.4562
LOC52	3.98096213	2.28341426	6438857.81560435	3.04	0.0814
LOC53	3.23324046	2.55249569	3398976.28560567	1.60	0.2054
LOC54	-1.89524034	2.31338464	1421788.66909407	0.67	0.7127
LOC55	-2.23441054	2.17257979	2240663.45116615	1.06	0.3038
LOC56	-3.45399306	2.26410687	4930049.03715663	2.33	0.1273
LOC57	-5.13185206	2.11505917	12471117.55822123	5.89	0.0153
LOC58	1.28307979	2.26344033	680724.51949377	0.32	0.5709
LOC59	-0.05564924	2.34570213	1192.27073748	0.00	0.9811
LOC60	-5.84408068	2.30470566	13620831.74826513	6.43	0.0113
LOC61	-2.04048421	2.38759384	1547204.54762722	0.73	0.3929
LOC62	1.67361187	2.38720273	1304916.76804407	0.62	0.4326
LOC63	4.84813878	2.31690781	9429131.86345352	4.45	0.0350
LL	1.38687159	0.65620304	9462332.18832036	4.47	0.0347

TEH 0412324

DUP050453376

SAS

15:03 SATURDAY, 1

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2SYS

363 OBSERVATIONS DELETED DUE TO MISSING VALUES.

ALL VARIABLES ENTERED

R SQUARE = 0.32961740

C(P) = 74.00000000

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	73	5705530174.49210000	78157947.65057672	14.69	0.0001
ERROR	2181	1160402384.00167300	5320506.13663534		
TOTAL	2254	17309554062.49377400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	68.66527993	0.15135548	71694916.5972949	13.51	0.0002
AGEYRS	-0.55637904	0.00166302	144470881.4337965	36.55	0.0001
AGESQ	0.01005424	0.08553166	1157103342.7416376	217.48	0.0001
BMI	1.26135261	2.13428701	67410144.5879553	12.67	0.0004
LOGZINC	-7.59694491	0.00129741	269463768.9567338	50.65	0.0001
ALBSQ	0.00923317	0.00000115	17014925.7004255	3.20	0.0737
CALCIUM	0.00000207	0.67705819	92522682.6015374	17.39	0.0001
FAMHYPER	2.62340791	0.10314561	50704920.2423381	9.53	0.0020
COFFEE	-0.31641925	4.86387318	60506312.1259693	11.37	0.0008
HEIGHT	16.40235134	1.20160395	252910271.9338251	47.54	0.0001
HYPERMED	8.56031693	3.27795639	2846.5092051	0.00	0.9815
LOC1	0.07581986	3.27076207	854239.8258133	0.16	0.6887
LOC2	-1.31057653	3.82136504	4274266.7123984	0.80	0.3702
LOC3	3.42509689	3.11093629	17372968.1671197	3.27	0.0709
LOC4	5.62149276	3.52508616	4855080.8176897	0.91	0.3396
LOC5	3.36737508	4.17152910	6365393.6983994	1.20	0.2742
LOC6	4.56280006	3.48200697	75174569.5689692	14.13	0.0002
LOC7	13.0846260	3.20214854	36372526.0425819	6.83	0.0090
LOC8	8.36667735	3.75603844	31552875.4506396	5.93	0.0150
LOC9	9.14688093	3.27574211	6846503.8945834	1.29	0.2568
LOC10	3.71593115	3.34447365	57853097.4325694	10.87	0.0010
LOC11	11.02845407	3.41760209	11519425.3977995	2.17	0.1413
LOC12	5.02875446	3.43946993	51206638.7253747	9.62	0.0019
LOC13	10.67033801	3.33857897	29827575.2449695	5.61	0.0180
LOC14	-7.90485949	3.67311003	22050917.1425389	4.14	0.0419
LOC15	7.47774743	3.50336602	1927742.7877569	0.36	0.5473
LOC16	2.10879169	3.28599581	28381481.0946522	5.33	0.0210
LOC17	7.58946424	4.00023235	30753224.8207819	5.78	0.0163
LOC18	9.61732018	4.03330615	1250739.9693566	0.24	0.6278
LOC19	1.95554687	3.47857190	1986870.0064757	0.37	0.5412
LOC20	-2.12573556	3.53371568	74289723.4674795	13.96	0.0002
LOC21	13.20442518	3.29480115	1944600.3371839	0.37	0.5455
LOC22	1.99190175	3.64484724	6102421.3637488	1.15	0.2827
LOC23	3.91627030	0.00000000	0.00000000	0.00	1.0000
LOC24	0.00000000	3.57899727	10222987.5357588	1.92	0.1658
LOC25	4.96105234	3.73916052	90733049.1130894	17.05	0.0001
LOC26	15.44117655	3.45940999	6137269.0594331	1.15	0.2829
LOC27	-3.71546473	3.04200076	5763198.8230455	1.08	0.2981
LOC28	3.16602712	3.49453554	29983942.9248391	5.64	0.0177
LOC29	8.29578253	3.56195794	9074786.8585353	1.71	0.1917
LOC30	4.65190170	3.52101718	821056.3899018	0.15	0.6945
LOC31	-1.38317629	3.27452993	8642790.6472009	1.62	0.2026
LOC32	4.17349105	3.65088943	353001.0554741	0.07	0.7968
LOC33	0.94039478				

TEH 0412325

DUP050453377

248

13103 SATURDAY, MAY 25, 11

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2SYS

LOC34	3.92356696	3.96290358	5215405.3978815	0.98	0.3222
LOC35	14.64610895	3.40422681	98482824.0688326	18.51	0.0001
LOC36	8.13974344	3.39307662	30618721.0913197	5.75	0.0165
LOC37	-0.66909118	3.74567783	169770.6919515	0.03	0.8582
LOC38	-3.20711768	3.61302942	4192178.2789874	0.79	0.3748
LOC39	1.27751177	4.20475179	491136.3052976	0.09	0.7613
LOC40	-3.49098812	3.50952504	5264443.8998866	0.99	0.3200
LOC41	5.79773760	3.52221323	14415800.7481938	2.71	0.0999
LOC42	6.96949008	4.44877124	13057944.1565235	2.45	0.1174
LOC43	-5.37431303	3.39659674	13320204.3808075	2.50	0.1137
LOC44	6.93163813	3.44332687	21560965.7299683	4.05	0.0442
LOC45	6.97229746	4.91005462	10728329.8367545	2.02	0.1557
LOC46	6.07170399	3.66047538	14638586.6946077	2.75	0.0973
LOC47	-0.69908015	3.62674308	197673.9145917	0.04	0.8472
LOC48	-3.65296365	4.21151932	4002819.9489516	0.75	0.3858
LOC49	-0.45162749	3.16839827	108102.1038944	0.02	0.8867
LOC50	9.56859367	3.41668249	41729187.5448203	7.84	0.0051
LOC51	8.55811629	3.55133139	30897754.3000946	5.81	0.0160
LOC52	8.86440524	3.57380464	32881229.7480363	6.18	0.0130
LOC53	-3.37602516	4.00329124	3783815.2671272	0.71	0.3991
LOC54	0.13953163	3.63940091	7820.5712274	0.00	0.9694
LOC55	-2.19689008	3.40914779	2209413.2996625	0.42	0.5194
LOC56	6.24675359	3.56546229	16331647.6917072	3.07	0.0799
LOC57	-0.31747352	3.32811666	48413.9893740	0.01	0.9240
LOC58	4.67847451	3.56244940	9176225.4607176	1.72	0.1892
LOC59	-1.79667969	3.70434136	1251619.3392221	0.24	0.6277
LOC60	-5.93015017	3.63002446	14199244.1924943	2.67	0.1025
LOC61	3.11715744	3.75800397	3660631.0237307	0.69	0.4069
LOC62	22.27478910	3.76929026	185806535.5314218	34.92	0.0001
LOC63	11.01260513	3.65657854	48259550.3693793	9.07	0.0026
L	3.23357116	0.99009004	56750332.4079699	10.67	0.0011

TEH 0412326

DUP050453378

TABLE 6

ALL MEN OVER 20

BACKWARDS STEPWISE REGRESSION USING PSU DUMMIES

FINAL MODEL

~~NOTE: ONLY DONE FOR DIASTOLIC BLOOD PRESSURE OUT OF EXHAUSTION~~

TEH 0412327

DUP050453379

N 30984.07

SAS

12:10 FRIDAY, MAY

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2D1A

TABLE LOC25 REMOVED

R SQUARE = 0.36274099

C(7) = 48.90858800

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	44	2662342363.59894460	60507780.99088510	28.51	0.0001
ERROR	2204	4677171011.50360900	2122128.40812323		
TOTAL	2248	7339513375.10255400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	100.99401262				
AGEYRS	0.78930177	0.09916754	134436852.55634429	63.35	0.0001
AGESQ	-0.00739207	0.00107530	100284693.14044166	47.26	0.0001
AMI	0.77064478	0.07168066	245287944.95593438	115.59	0.0001
LOGZINC	-36.20159481	8.59193255	37674313.55069997	17.75	0.0001
LOGVITC	1.16566121	0.25502348	43312454.21500187	20.41	0.0001
ALBSW	0.00454153	0.00081911	65237303.43291112	30.74	0.0001
LSCHOL	3.06935119	1.06446276	17644277.31965757	8.31	0.0040
SMOKNUM	-0.04788155	0.01578733	19035106.29665966	8.97	0.0028
DIETVITC	-0.00971631	0.00258481	29085968.79759537	14.13	0.0002
ZINC	0.33737709	0.09238299	28302106.76209718	13.34	0.0003
HEMOGLOB	0.11119212	0.02079953	59497757.06645452	28.04	0.0001
TRICEPR	0.01056109	0.00392304	15379265.34717077	7.25	0.0072
FAMHYPER	1.94489872	0.42137356	87084344.30494111	22.19	0.0001
COFFEE	-0.18276518	0.06675251	15905244.10193612	7.50	0.0062
HEIGHT	12.64042060	3.06255574	36151531.89256895	17.04	0.0001
HYPERMED	5.41264196	0.78157804	101783565.05159897	47.96	0.0001
PACE	2.00802310	0.78155029	14004615.52153571	6.60	0.0103
LOC1	-3.53217491	1.43555917	12847359.24704084	6.05	0.0140
LOC4	3.06729405	1.28560043	12234146.14025492	5.77	0.0164
LOC5	-4.07620448	1.68056160	15055064.58827486	7.09	0.0078
LOC6	-4.73984621	2.16817440	10141722.80037166	4.78	0.0289
LOC12	-5.87141077	1.54421430	29149193.30203094	13.74	0.0002
LOC13	4.72879757	1.57249400	19190792.04509866	9.04	0.0027
LOC14	-10.85990413	1.44933492	112433716.87977850	53.17	0.0001
LOC16	-6.82126863	1.64312131	36573178.64431681	17.23	0.0001
LOC17	6.19070813	1.44342482	39035644.36237331	18.39	0.0001
LOC20	-6.10692957	1.61451959	30362032.81644423	14.31	0.0002
LOC21	8.95407847	1.64707144	62717476.81168893	29.55	0.0001
LOC26	6.77267560	1.81545135	29521037.74593528	13.91	0.0002
LOC27	-3.41891408	1.59633943	9734139.11100936	4.59	0.0323
LOC28	3.14473255	1.22275273	14036596.31243235	6.61	0.0102
LOC31	-6.33964853	1.66620912	30721541.72252216	14.48	0.0001
LOC32	-0.25113369	1.43957761	18505934.37089000	8.72	0.0032
LOC35	5.42811748	1.55422876	25484528.05659119	12.20	0.0005
LOC39	-4.55988269	2.19778462	9135003.95078636	4.30	0.0381
LOC40	-5.57807230	1.64246259	24476480.12579289	11.53	0.0007
LOC41	3.46613054	1.64974663	9367570.80916057	4.41	0.0358
LOC54	-3.65240323	1.74339944	9316019.9843096	4.39	0.0363
LOC55	-3.89414258	1.55444119	13345612.42334496	6.29	0.0122
LOC56	-5.04667032	1.67352034	19294321.48900277	9.09	0.0026
LOC57	-6.78559049	1.48615407	44240424.04659173	20.85	0.0001
LOC60	-7.67222954	1.73606074	11446227.24333042	19.53	0.0001
LOC61	-3.81788804	1.84710493	9066351.46608483	4.27	0.0389
LL	1.69876470	0.61539603	16170696.99216149	7.62	0.0058

IN THE MODEL ARE SIGNIFICANT AT THE 0.0500 LEVEL.

TEH 0412328

DUP050453380

SAS

15:03 SATURDAY, MAY

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2SYS

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2SYS

TABLE LOC56 REMOVED

R SQUARE = 0.31167104

C(P) = 52.38608947

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	33	539486631.19056100	163481413.06638064	30.47	0.0001
ERROR	2221	11914667431.30321300	5364550.84705232		
TOTAL	2254	17309554062.49377400			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	72.24982816				
AGEYRS	-0.52734042	0.15042759	65926573.4693641	12.29	0.0005
AGE80	0.00986741	0.00165454	183145752.1691326	34.14	0.0001
BMI	1.28191506	0.08465443	1230134101.2846488	229.31	0.0001
LOGZINC	-8.19288704	2.07327473	83770979.0769040	15.62	0.0001
ALB80	0.00918606	0.00126225	282843096.0977691	52.73	0.0001
FAMHYPER	2.84299053	0.66785445	97212147.8500478	18.12	0.0001
COFFEE	-0.29907525	0.10176160	46336944.0585349	8.64	0.0033
HEIGHT	16.79858401	4.80638630	65530181.3846267	12.22	0.0005
HYPERMED	8.56580740	1.23900570	252623738.1819132	47.13	0.0001
LOC4	4.33498536	2.02453993	24595516.1049731	4.58	0.0324
LOC7	11.61710190	2.55055790	111270626.7959006	20.75	0.0001
LOC8	6.70243121	2.13625837	52806884.1449716	9.84	0.0017
LOC9	7.84557880	2.91266388	38922667.8849087	7.26	0.0071
LOC11	9.46781470	2.35018492	87042031.3756729	16.23	0.0001
LOC13	9.33829299	2.48959596	75476302.4918401	14.07	0.0002
LOC14	-9.45771073	2.35313311	86658751.9849679	16.15	0.0001
LOC15	5.93242296	2.80230558	24041778.8050688	4.48	0.0344
LOC17	6.07906450	2.28384963	36007723.4137538	7.08	0.0078
LOC18	8.28036426	3.22702038	35320661.8311072	6.58	0.0104
LOC21	11.98921492	2.60532623	113603218.0141343	21.18	0.0001
LOC26	14.18480403	2.87990234	130144112.3053430	24.26	0.0001
LOC29	6.83485165	2.56283856	38154784.4919063	7.11	0.0077
LOC35	13.16228470	2.43389562	156888431.4509377	29.25	0.0001
LOC36	6.65842703	2.44828989	39678109.9750917	7.40	0.0066
LOC43	-6.76155512	2.45118506	40820126.8747989	7.61	0.0059
LOC44	5.21595843	2.49685350	23410758.5970533	4.36	0.0368
LOC50	8.02108030	2.47129413	56513241.4174752	10.53	0.0012
LOC51	7.06036720	2.64778907	38143555.4745842	7.11	0.0077
LOC52	7.45551945	2.67637202	41624022.9952493	7.76	0.0054
LOC60	-7.61015621	2.74966314	41092401.6617206	7.66	0.0057
LOC62	20.92193095	2.93426037	272734198.8662524	50.84	0.0001
LOC63	9.36133216	2.80242935	59860360.9572330	11.16	0.0009
LL	3.20104279	0.93379105	63640103.1427572	11.75	0.0006

S IN THE MODEL ARE SIGNIFICANT AT THE 0.0500 LEVEL.

TEH 0412329

DUP050453381

TABLE 7

MEN 40-59 BASELINE MODEL

NOTE: RECEX means recreational exercise

TEH 0412330

DUP050453382

N 30984.08

3 VARIABLE: BSEBYS

SOURCE	SS	SUM OF SQUARE	MEAN SQUARE	F VALUE	PROB>F
MODEL	154.8551681	154.8551681	129933307	16.377	0.0101
ERROR	4818014.138	4818014.138	7997278		
TOTAL	4972869.819	4972869.819			
ADJUSTED	150.0000	150.0000	1250000	0.2478	
DEP. MEAN	108.888	108.888	800	1.2192	
D.V.	1187.148	1187.148			

PARAMETER	ESTIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0	PROB> T
INTERCEPT	108.888	800.000	0.136	0.892
BSEBYS	1.000	0.000	1.000	0.317
ERROR	0.000	0.000	0.000	1.000
TOTAL	0.000	0.000	0.000	1.000
ADJUSTED	0.000	0.000	0.000	1.000
DEP. MEAN	0.000	0.000	0.000	1.000
D.V.	0.000	0.000	0.000	1.000
MODEL	0.000	0.000	0.000	1.000
ERROR	0.000	0.000	0.000	1.000
TOTAL	0.000	0.000	0.000	1.000
ADJUSTED	0.000	0.000	0.000	1.000
DEP. MEAN	0.000	0.000	0.000	1.000
D.V.	0.000	0.000	0.000	1.000

3 VARIABLE: BSEBYS

SOURCE	SS	SUM OF SQUARE	MEAN SQUARE	F VALUE	PROB>F
MODEL	154.8551681	154.8551681	129933307	16.377	0.0101
ERROR	4818014.138	4818014.138	7997278		
TOTAL	4972869.819	4972869.819			
ADJUSTED	150.0000	150.0000	1250000	0.2478	
DEP. MEAN	108.888	108.888	800	1.2192	
D.V.	1187.148	1187.148			

PARAMETER	ESTIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0	PROB> T
INTERCEPT	108.888	800.000	0.136	0.892
BSEBYS	1.000	0.000	1.000	0.317
ERROR	0.000	0.000	0.000	1.000
TOTAL	0.000	0.000	0.000	1.000
ADJUSTED	0.000	0.000	0.000	1.000
DEP. MEAN	0.000	0.000	0.000	1.000
D.V.	0.000	0.000	0.000	1.000
MODEL	0.000	0.000	0.000	1.000
ERROR	0.000	0.000	0.000	1.000
TOTAL	0.000	0.000	0.000	1.000
ADJUSTED	0.000	0.000	0.000	1.000
DEP. MEAN	0.000	0.000	0.000	1.000
D.V.	0.000	0.000	0.000	1.000

TEH 0412331

DUP050453383

TABLE 8

MEN 40-59

WITH VARIABLES FOR EACH STRATA

NOTE: THERE ARE ONLY AN AVERAGE OF 20 OBSERVATIONS PER STRATA

TEH 0412332

DUP050453384

N 30984.09

DATE	TIME	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
DEC	42	804409878	21675449	6.809	0.0101
NOV	512	1801237052	3117019		
TOTAL	600	1706081674			
ADJUST YRS	1788.808		F-SQUARE	0.3342	
INT MEAN	81.0000000		ADJ F-SQ	0.1638	
C.V.	2081.471				

TEH 0412333

VARIABLE: BP2SYS

ORCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
DEL	43	2037504622	47383828	6.271	0.0001
ROR	577	4359983844	7556298		
TOTAL	620	6397488466			
ROOT MSE		2748.872	R-SQUARE	0.3195	
DEF MEAN		128.959	ADJ R-SQ	0.2677	
C.V.		2171.426			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > T
TERCEP	1	-80.812400	52.757446	-1.419	0.1566
EYRS	1	2.185245	2.092737	1.044	0.2968
ESQ	1	-0.015280	0.021152	-0.751	0.4571
I	1	1.310001	0.167006	7.844	0.0001
BUMIN	1	0.894448	0.239237	3.742	0.0001
D	1	0.010779	0.889148	0.084	0.9384
GRIBO	1	-5.757015	1.582242	-3.638	0.0001
SOLEIC	1	0.745171	1.440734	0.517	0.5992
ERC	1	-4.518817	1.182173	-3.826	0.0001
RFEE	1	-0.415467	0.171442	-2.424	0.0153
IGHT	1	0.715007	0.750711	0.952	0.3357
PERME2	1	0.700189	0.411111	1.703	0.0891
Q1	1	15.862113	1.170111	13.556	0.0001
Q2	1	11.941111	0.975111	12.205	0.0001
Q3	1	11.120111	0.911111	12.205	0.0001
Q4	1	11.010111	0.911111	12.205	0.0001
Q5	1	0.010111	0.911111	0.111	0.9111
Q6	1	-5.010111	0.911111	-5.500	0.0001
Q7	1	0.010111	0.911111	0.111	0.9111
Q8	1	0.010111	0.911111	0.111	0.9111
Q9	1	0.010111	0.911111	0.111	0.9111
Q10	1	0.010111	0.911111	0.111	0.9111
Q11	1	0.010111	0.911111	0.111	0.9111
Q12	1	0.010111	0.911111	0.111	0.9111
Q13	1	0.010111	0.911111	0.111	0.9111
Q14	1	0.010111	0.911111	0.111	0.9111
Q15	1	0.010111	0.911111	0.111	0.9111
Q16	1	0.010111	0.911111	0.111	0.9111
Q17	1	0.010111	0.911111	0.111	0.9111
Q18	1	0.010111	0.911111	0.111	0.9111
Q19	1	0.010111	0.911111	0.111	0.9111
Q20	1	0.010111	0.911111	0.111	0.9111
Q21	1	0.010111	0.911111	0.111	0.9111
Q22	1	0.010111	0.911111	0.111	0.9111
Q23	1	0.010111	0.911111	0.111	0.9111
Q24	1	0.010111	0.911111	0.111	0.9111
Q25	1	0.010111	0.911111	0.111	0.9111
Q26	1	0.010111	0.911111	0.111	0.9111
Q27	1	0.010111	0.911111	0.111	0.9111
Q28	1	0.010111	0.911111	0.111	0.9111
Q29	1	0.010111	0.911111	0.111	0.9111
Q30	1	0.010111	0.911111	0.111	0.9111
Q31	1	0.010111	0.911111	0.111	0.9111
Q32	1	0.010111	0.911111	0.111	0.9111
Q33	1	0.010111	0.911111	0.111	0.9111
Q34	1	0.010111	0.911111	0.111	0.9111
Q35	1	0.010111	0.911111	0.111	0.9111
Q36	1	0.010111	0.911111	0.111	0.9111
Q37	1	0.010111	0.911111	0.111	0.9111
Q38	1	0.010111	0.911111	0.111	0.9111
Q39	1	0.010111	0.911111	0.111	0.9111
Q40	1	0.010111	0.911111	0.111	0.9111
Q41	1	0.010111	0.911111	0.111	0.9111
Q42	1	0.010111	0.911111	0.111	0.9111
Q43	1	0.010111	0.911111	0.111	0.9111
Q44	1	0.010111	0.911111	0.111	0.9111
Q45	1	0.010111	0.911111	0.111	0.9111
Q46	1	0.010111	0.911111	0.111	0.9111
Q47	1	0.010111	0.911111	0.111	0.9111
Q48	1	0.010111	0.911111	0.111	0.9111
Q49	1	0.010111	0.911111	0.111	0.9111
Q50	1	0.010111	0.911111	0.111	0.9111
Q51	1	0.010111	0.911111	0.111	0.9111
Q52	1	0.010111	0.911111	0.111	0.9111
Q53	1	0.010111	0.911111	0.111	0.9111
Q54	1	0.010111	0.911111	0.111	0.9111
Q55	1	0.010111	0.911111	0.111	0.9111
Q56	1	0.010111	0.911111	0.111	0.9111
Q57	1	0.010111	0.911111	0.111	0.9111
Q58	1	0.010111	0.911111	0.111	0.9111
Q59	1	0.010111	0.911111	0.111	0.9111
Q60	1	0.010111	0.911111	0.111	0.9111
Q61	1	0.010111	0.911111	0.111	0.9111
Q62	1	0.010111	0.911111	0.111	0.9111
Q63	1	0.010111	0.911111	0.111	0.9111
Q64	1	0.010111	0.911111	0.111	0.9111
Q65	1	0.010111	0.911111	0.111	0.9111
Q66	1	0.010111	0.911111	0.111	0.9111
Q67	1	0.010111	0.911111	0.111	0.9111
Q68	1	0.010111	0.911111	0.111	0.9111
Q69	1	0.010111	0.911111	0.111	0.9111
Q70	1	0.010111	0.911111	0.111	0.9111
Q71	1	0.010111	0.911111	0.111	0.9111
Q72	1	0.010111	0.911111	0.111	0.9111
Q73	1	0.010111	0.911111	0.111	0.9111
Q74	1	0.010111	0.911111	0.111	0.9111
Q75	1	0.010111	0.911111	0.111	0.9111
Q76	1	0.010111	0.911111	0.111	0.9111
Q77	1	0.010111	0.911111	0.111	0.9111
Q78	1	0.010111	0.911111	0.111	0.9111
Q79	1	0.010111	0.911111	0.111	0.9111
Q80	1	0.010111	0.911111	0.111	0.9111
Q81	1	0.010111	0.911111	0.111	0.9111
Q82	1	0.010111	0.911111	0.111	0.9111
Q83	1	0.010111	0.911111	0.111	0.9111
Q84	1	0.010111	0.911111	0.111	0.9111
Q85	1	0.010111	0.911111	0.111	0.9111
Q86	1	0.010111	0.911111	0.111	0.9111
Q87	1	0.010111	0.911111	0.111	0.9111
Q88	1	0.010111	0.911111	0.111	0.9111
Q89	1	0.010111	0.911111	0.111	0.9111
Q90	1	0.010111	0.911111	0.111	0.9111
Q91	1	0.010111	0.911111	0.111	0.9111
Q92	1	0.010111	0.911111	0.111	0.9111
Q93	1	0.010111	0.911111	0.111	0.9111
Q94	1	0.010111	0.911111	0.111	0.9111
Q95	1	0.010111	0.911111	0.111	0.9111
Q96	1	0.010111	0.911111	0.111	0.9111
Q97	1	0.010111	0.911111	0.111	0.9111
Q98	1	0.010111	0.911111	0.111	0.9111
Q99	1	0.010111	0.911111	0.111	0.9111
Q100	1	0.010111	0.911111	0.111	0.9111

TEH 0412334

TABLE 9

MEN 40-59

MAXIMUM R-SQUARE REGRESSION WITH DUMMY VARIABLES FOR EACH
PSU

NOTE: DIASTOLIC ONLY SINCE LEAD IS LESS SIGNIFICANT FOR DIASTOLIC

TEH 0412335

DUP050453387

N 30984.1

With age
Forced in
VARIABLE LOC26 ENTERED

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE BP2DIA
THE FIRST 3 VARIABLES IN EACH MODEL ARE INCLUDED VARIABLES.

R SQUARE = 0.30924405 C(P) = 27.75426036

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	18	861006163.69358740	47833675.76075485	15.54	0.000
ERROR	625	1923222571.80221640	3077156.11488355		
TOTAL	643	2784228735.49580380			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-11.47281798				
AGEYRS	-0.28123929	1.29407341	145339.50564350	0.05	0.828
AGESQ	0.00415042	0.01308609	309537.06533097	0.10	0.751
BMI	0.08246996	0.10393166	271857115.17565195	72.10	0.000
POTASS	-0.00166657	0.00034692	71012691.99678090	23.08	0.000
HEMOGLOB	0.08576666	0.03682593	16690874.16318357	5.42	0.020
ALBUMIN	0.52529679	0.14559608	80055270.08795614	13.02	0.000
LVC	1.70571254	0.35504319	71022973.21468144	23.08	0.000
RECEX	1.37442616	0.58373132	17059502.32674835	5.54	0.018
HEIGHT	12.62616933	5.90866370	14051225.51511514	4.57	0.033
HYPERMED	0.38983766	1.32652896	71399588.18353469	23.20	0.000
LOC6	-6.92974608	2.69963307	20275645.67244471	6.59	0.010
LOC14	-8.29005045	2.72378689	28504775.60473393	9.25	0.002
LOC17	6.61821025	3.15530485	13537762.78752019	4.40	0.036
LOC21	7.78313507	2.88939926	22327677.10879437	7.26	0.007
LOC26	6.23449283	3.09672376	12472308.87990160	4.05	0.044
LOC35	8.93197640	2.96248926	27972487.88361286	9.09	0.002
LOC57	-6.60204705	2.76564613	17532777.79949686	5.70	0.017
LL	3.98330129	1.12357019	38675454.61211582	12.57	0.000

JVE MODEL IS THE BEST 18 VARIABLE MODEL FOUND.

Without age

Forced in

VARIABLE LOC42 ENTERED

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE BP2DIA

R SQUARE = 0.30267823 C(P) = 27.77826628

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	15	842725412.77970620	56181694.18531374	18.17	0.0001
ERROR	628	1941503322.71609750	3091565.80050334		
TOTAL	643	2784228735.49580380			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	9.85774032				
BMI	0.88809626	0.10400582	225415263.14063443	72.91	0.0001
POTASS	-0.00170592	0.00034561	75322091.45832750	24.36	0.0001
HEMOGLOB	0.08210345	0.03647555	15325840.69317285	4.96	0.0243
ALBUMIN	0.48612761	0.14289843	35778665.80502016	11.57	0.0007
LVC	1.71169647	0.35497741	71883725.29381513	23.25	0.0001
RECEX	1.45381430	0.58154179	19321218.10979101	6.25	0.0127
HYPERMED	6.98370456	1.31490719	87208739.70440672	28.21	0.0001
LOC6	-6.73166920	2.70191831	19190204.30072010	6.21	0.0130
LOC14	-8.76951395	2.72166101	32096780.95363639	10.38	0.0013
LOC17	6.77357741	3.15547406	14245754.76217954	4.61	0.0322
LOC21	7.90846494	2.88939125	23160619.70698003	7.49	0.0064
LOC35	9.21958185	2.95897294	30013659.77487774	9.71	0.0019
LOC42	9.34906810	0.46344447	13561165.99117869	4.39	0.0366
LOC57	-6.53139145	2.77086901	17177419.89723579	5.56	0.0187
LL	3.73214340	1.12614736	33955074.94956801	10.98	0.0010

DEL IS THE BEST 15 VARIABLE MODEL FOUND.

TEH 0412336

DUP050453388

TABLE 10

MEN 40-59

WITH ALL PSU DUMMIES

BOTH RACES AND WHITES ONLY

TEH 0412337

DUP050453389

N 30984.11

Both races

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2D1A

27 OBSERVATIONS DELETED DUE TO MISSING VALUES.

ALL VARIABLES ENTERED

R SQUARE = 0.3200238

C(P) = 77.00000000

	OF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	76	1063582002.00193240	13994500.02739385	4.61	0.0001
ERROR	567	1720646733.41387140	3034650.32348125		
TOTAL	643	2784228735.49580380			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	0.52282754				
AGEYRS	-0.48574409	1.34134925	397960.50505190	0.13	0.7174
AGESQ	0.00603500	0.01356662	600509.92256316	0.20	0.6566
BMI	0.90017961	0.10836902	209390353.45191064	69.00	0.0001
POTASS	-0.00144694	0.00038182	43700606.10247790	14.40	0.0002
HEMDGLOB	0.07638326	0.04120672	10427228.41879762	3.44	0.0643
ALBUMIN	0.51302741	0.15830173	31972671.41465219	10.50	0.0013
LVC	1.50045271	0.38003274	52484327.70790772	17.30	0.0001
FAMHYPER	1.31278676	0.69680648	6473879.94987942	2.13	0.1447
RECEX	1.02833604	0.62889243	8113832.39139923	2.67	0.1026
HEIGHT	10.63558085	6.24208067	8809927.36980361	2.90	0.0890
COFFEE	-0.09363393	0.12152635	1801499.80466302	0.59	0.4413
HYPERMED	5.82838784	1.39917339	52657770.58537713	17.35	0.0001
LOC1	-1.86795664	5.36241481	376159.36074467	0.12	0.7249
LOC2	6.00067026	5.14466239	4128520.27253775	1.36	0.2439
LOC3	6.07682353	5.52242274	3674536.80272400	1.21	0.2716
LOC4	2.62683322	5.35320326	731825.02711476	0.24	0.6236
LOC5	1.51626556	5.10403129	267813.58845451	0.09	0.7665
LOC6	-3.75935698	5.02004428	1701847.71007995	0.56	0.4542
LOC7	5.30607639	5.62689329	2696557.10056214	0.89	0.3463
LOC8	4.10415034	4.85166799	2171565.98618686	0.72	0.3980
RACE	2.16204678	1.79374338	4408777.77042833	1.45	0.2286
LOC9	4.78449883	5.19808529	2570956.68011221	0.85	0.3577
LOC10	4.81859349	4.80909532	3046649.29152956	1.00	0.3168
LOC11	5.26055324	4.98137243	3384335.97108517	1.12	0.2914
LOC12	0.95023592	5.08298849	106055.52236057	0.03	0.8518
LOC13	6.1851602	5.18786849	4318210.19498000	1.42	0.2334
LOC14	-5.77649415	5.02270653	4013855.41309325	1.32	0.2506
LOC15	4.47396387	5.50763718	2002455.56924847	0.66	0.4169
LOC16	-0.24694181	5.78190878	5535.48193519	0.00	0.9659
LOC17	9.50496000	5.26346690	9896131.34622148	3.26	0.0715
LOC18	0.05080915	5.82999857	3268877.67245212	1.08	0.2998
LOC19	-1.60614244	5.96135824	220285.71161760	0.07	0.7877
LOC20	-4.43841262	5.87964939	1729263.37909696	0.57	0.4506
LOC21	10.91102216	5.13229909	13715625.43179494	4.52	0.0339
LOC22	4.56852308	5.08923096	2445434.19727164	0.81	0.3697
LOC23	2.73124233	5.75296941	683982.50551611	0.23	0.6351
LOC24	0.00000000	0.00000000	0.00000000	0.00	1.0000
LOC25	3.12745094	5.38524853	1023477.18528437	0.34	0.5616
LOC26	8.93639767	5.23715463	8835738.13284370	2.91	0.0885
LOC27	0.82330405	5.19353665	76261.04567581	0.03	0.8741
LOC28	6.03690673	5.10831174	4238213.22173189	1.40	0.2378
LOC29	6.47290332	5.55437141	4121326.69786889	1.36	0.2444
LOC30	-3.77158839	5.62721158	1363246.14612696	0.45	0.5030

TEH 0412338

DUP050453390

SAS

14134 SATURDAY, MAY 25, 198

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2DIA

OC31	-6.54291162	6.69214684	2900813.70650525	0.96	0.3286
OC32	-2.85013828	5.30756384	875084.64975482	0.29	0.5915
OC33	5.70468454	5.18317708	3676036.63064282	1.21	0.2715
OC34	1.05745272	7.15956544	66199.88624316	0.02	0.8826
OC35	12.16507430	5.13114342	17057283.95762645	5.62	0.0181
OC36	5.69099643	5.31178357	3483409.55931574	1.15	0.2844
OC37	8.67305207	5.41146369	7795124.66446085	2.57	0.1096
OC38	-2.63522562	5.31561086	745826.65819200	0.25	0.6203
OC39	-3.30192524	5.70484256	1016613.32990275	0.34	0.5630
OC40	-2.70192746	5.79214015	660355.65706877	0.22	0.6410
OC41	8.52778557	5.55939636	7140455.57436950	2.35	0.1256
OC42	10.95563494	6.15295611	9620909.42461167	3.17	0.0755
OC43	8.41626295	5.52511174	7041498.88958935	2.32	0.1282
OC44	3.19820300	5.24931158	1126460.59696621	0.37	0.5426
OC45	-1.08418376	5.13623416	135214.98309585	0.04	0.8329
OC46	2.56770372	5.50378148	660505.00172529	0.22	0.6410
OC47	-1.13267793	5.40201354	133416.70114290	0.04	0.8340
OC48	-0.91711028	5.50252632	84299.92846547	0.03	0.8677
OC49	4.94307831	4.92516125	3056749.77203308	1.01	0.3160
OC50	4.74058846	5.33660431	2394656.14340305	0.79	0.3747
OC51	8.15209498	6.12757699	5371178.24403860	1.77	0.1839
OC52	4.03701094	5.30380396	1758140.51644590	0.58	0.4469
OC53	9.97429464	5.95649454	8509255.13164182	2.80	0.0946
OC54	1.86881799	5.41582481	361337.84615817	0.12	0.7302
OC55	1.21800054	5.08806308	173899.62426564	0.06	0.8109
OC56	1.75794408	5.11229621	358828.35102870	0.12	0.7311
OC57	-3.66573849	5.06168036	1579126.51570013	0.52	0.4710
OC58	2.98656878	5.05495621	1059299.83100275	0.35	0.5549
OC59	4.43267638	5.64954810	1868156.62668942	0.62	0.4330
OC60	-1.16469108	6.19194285	107368.34975175	0.04	0.8509
OC61	0.79376863	5.40692495	65402.72398231	0.02	0.8833
OC62	1.03946852	5.55899298	106105.79076517	0.03	0.8517
OC63	5.09047563	5.53553269	2566294.78230978	0.85	0.3582
	3.26144451	1.27156596	19964151.61081547	6.58	0.0106

TEH 0412339

DUP050453391

whites only

BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE BP2DIA

22 OBSERVATIONS DELETED DUE TO MISSING VALUES.

ALL VARIABLES ENTERED

R SQUARE = 0.40243598

C(P) = 76.00000000

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	75	950117925.04311530	12668239.00057467	4.40	0.0001
ERROR	490	1410798998.14780260	2879181.62867307		
TOTAL	565	2360916923.19091790			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-15.53115861				
AGEYRS	0.00021890	1.39362464	0.07103492	0.00	0.9999
AGES0	0.00080482	0.01409861	9382.50995766	0.00	0.9545
BMI	1.02748616	0.11996267	211216971.81244008	73.36	0.0001
POTASS	-0.00162430	0.00039468	46765170.92372744	16.94	0.0001
HEMOGLOB	0.09455545	0.04396190	13319541.24462181	4.63	0.0320
ALBUMIN	0.42431881	0.16864454	18183587.33982784	6.32	0.0123
LVC	1.47724650	0.40370648	38551703.37637411	13.39	0.0003
FAMHYPER	1.82216652	0.93648095	10900522.01782180	3.79	0.0523
RECEX	0.97559232	0.66879224	6126654.00526955	2.13	0.1453
HEIGHT	11.08529443	6.62404602	8958787.80597756	3.11	0.0784
COFFEE	-0.06932127	0.12165434	934860.79152761	0.32	0.5691
HYPERMED	5.16223978	1.47063781	35475943.17560251	12.32	0.0005
LOC1	3.99364923	5.53271331	1500142.67278087	0.52	0.4707
LOC2	-1.46084500	7.79439488	101137.57436156	0.04	0.8514
LOC3	5.81547031	5.61763821	3085540.25221091	1.07	0.3011
LOC4	1.50844026	5.37158163	227049.70167375	0.08	0.7790
LOC5	4.11961733	5.18821356	1815294.64573314	0.63	0.4276
LOC6	-4.22037842	5.00237294	2049366.90204036	0.71	0.3993
LOC7	4.06179825	5.57690924	1527279.78881401	0.53	0.4668
LOC8	4.44426969	4.73523129	2536246.07746409	0.88	0.3444
LOC9	5.26687078	5.11683508	2981397.08980647	1.04	0.3094
LOC10	5.18520477	4.73050794	3459276.95778767	1.20	0.2736
LOC11	5.78176829	4.86649337	4064041.69744815	1.41	0.2354
LOC12	-1.11479501	5.20683700	131980.91423768	0.05	0.8306
LOC13	5.59916664	5.19290342	3347305.50968356	1.16	0.2815
LOC14	-5.56131618	4.90280390	3704547.70100482	1.29	0.2572
LOC15	4.71077122	5.37019547	2215505.84949440	0.77	0.3808
LOC16	-0.13376697	5.64797415	1615.03317796	0.00	0.9811
LOC17	9.59826693	5.12986884	10079574.22411902	3.50	0.0619
LOC18	6.20142849	5.69034534	34.9599.88844484	1.19	0.2763
LOC19	12.49203991	9.23171657	5271944.90963170	1.83	0.1766
LOC20	-3.80235797	5.95967461	1172006.35843882	0.41	0.5238
LOC21	11.25121231	5.01002082	14520736.39544020	5.04	0.0252
LOC22	3.79158712	4.99169023	1661176.92358805	0.58	0.4479
LOC23	2.34364452	5.74074530	479861.58212562	0.17	0.6833
LOC24	0.00000000	0.00000000	0.00000000	0.00	1.0000
LOC25	4.31595619	5.30513174	1905595.73313799	0.66	0.4163
LOC26	9.37900552	5.19353992	9389618.59576361	3.26	0.0715
LOC27	-0.45921135	5.25554007	95909.79728394	0.03	0.8553
LOC28	6.31285600	5.12069277	4376845.34162304	1.52	0.2158
LOC29	7.32959589	5.42205390	5261441.73178873	1.83	0.1771
LOC30	-3.30671072	5.49527956	1267848.30565009	0.37	0.5428
LOC31	-7.39218360	7.44919385	2797594.54137405	0.97	0.3248

Handwritten signature or initials.

TEH 0412340

DUP050453392

	BACKWARD ELIMINATION PROCEDURE FOR DEPENDENT VARIABLE UP2DIA					
OC32	-2.39163565	5.17407697	615167.02270385	0.21	0.6441	
OC33	1.86112366	6.05734604	271803.31811939	0.09	0.7588	
OC34	9.79035841	9.00984235	3399631.62662185	1.18	0.2777	
OC35	12.53069777	5.06874877	17596165.63437457	6.11	0.0138	
OC36	6.35988737	5.24914929	4226589.42664590	1.47	0.2262	
OC37	5.61437350	5.58359001	2911016.14854908	1.01	0.3151	
OC38	-1.70274172	5.19193686	309676.18967779	0.11	0.7431	
OC39	-3.06722405	5.56457766	874773.56189109	0.30	0.5817	
OC40	-2.38272704	5.65205798	511687.05656770	0.18	0.6735	
OC41	9.07899348	5.42663630	8059034.98353789	2.80	0.0950	
OC42	11.58104674	6.00850974	10696979.22299960	3.72	0.0545	
OC43	7.37451385	5.68238757	4849245.26305587	1.68	0.1950	
OC44	3.13493436	5.37951096	977778.24884811	0.34	0.5603	
OC45	-2.42777066	5.14576002	640892.69934336	0.22	0.6173	
OC46	6.28273631	5.67822158	3524861.46301437	1.22	0.2691	
OC47	-0.17287074	5.46168989	2884.20542256	0.00	0.9748	
OC48	-0.04736736	5.69055034	199.48894985	0.00	0.9934	
OC49	5.08383281	4.84929100	3112861.58393883	1.08	0.2990	
OC50	4.96770554	5.20701113	2620618.13451785	0.91	0.3495	
OC51	8.68833360	6.84478608	4638977.63010393	1.61	0.2049	
OC52	4.38648005	5.17712264	2066923.84202778	0.72	0.3973	
OC53	11.00723274	5.81329582	10322395.95686018	3.59	0.0589	
OC54	2.37011915	5.28890763	578199.15874103	0.20	0.6543	
OC55	1.77799685	4.96444305	369309.06720238	0.13	0.7208	
OC56	2.05282770	4.98510143	488231.79911430	0.17	0.6807	
OC57	-3.12523188	4.96059154	1142790.48664017	0.40	0.5290	
OC58	3.34344692	4.93161101	1323398.66414382	0.46	0.4981	
OC59	4.62014905	5.50961450	2024637.97844966	0.70	0.4021	
OC60	-0.98743512	6.04466430	76831.94512597	0.03	0.8703	
OC61	1.09303298	5.33256686	120965.92171203	0.04	0.8377	
OC62	1.01662770	5.42055295	101275.81846951	0.04	0.8513	
OC63	6.04765239	5.48748400	3497004.32607091	1.21	0.2710	
-	3.11917711	1.37026441	14919371.30418158	5.18	0.0233	

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