Reports from the project

Individual Development and Adaptation

DETAILS ON BIOMARKERS ADDED TO THE IDA DATABASE IN 2006

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<u>Reports from the project Individual Development and Adaptation published from 2000 and onwards:</u>

No.	70	Bergman, L.R. Women's health, work, and education in a life-span perspective. Technical report 1: Theoretical background and overview of the data collection. *(January 2000)*
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No. 89 Daukantaite, D. Women's health, work, and education in a life-span perspective. Technical report 3: Overview and detailed descriptions of the questionnaires. *(January 2007)*

No. 90 Wulff, C. Ability and satisfaction with school and job. A longitudinal study. *(Licentiate thesis, May 2007)*

No. 91 Andersson, H. Women's positive adaptation in childhood and adulthood. A longitudinal study. *(November 2007)*

No. 92 Lindfors, P., & Nilsson, T.K. Details on biomarkers added to the IDA database in 2006. (*January 2009*)

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Foreword

This report contains a description and some basic statistics concerning the biomarkers measured for the women in the main group who in 1998 took part in the IDA medical examination at age 43. The report is written by Petra Lindfors and Torbjörn K. Nilsson.

The data collection at age 43 was supported by grants to Lars R. Bergman from the Swedish Council for Social Research and the earlier data collections were supported by grants to David Magnusson from the Swedish Board of Education, the Swedish Council for the Planning and Coordination of Research, the Swedish Council for Social Research, and the Bank of Sweden Tercentenary Foundation. The infra structure of the data base is supported by the Bank of Sweden Tercentenary foundation and by the Swedish Research Council. The biochemical analyses were financed by grants to Petra Lindfors fromthe Hierta-Retzius Foundation at the Royal Swedish Academy of Sciences and to Torbjörn K. Nilsson from the Örebro County Council.

Stockholm, January 9, 2009

Lars R. Bergman
Professor
Director of IDA

ABSTRACT

This brief report summarizes basic information of the different biomarkers that were added to the database Individual Development and Adaptation (IDA) in 2006. These biomarkers were analysed in samples that were collected in 1998 when a sub-sample of the women in the IDA-project took part in an extensive medical examination. The report covers details on the biomarkers, the biochemical analyses and frequency tables for each biomarker.

BACKGROUND

This is a brief report that provides details on the biomarkers that were added to the database of the research program Individual Development and Adaptation (IDA; Magnusson, 1988) in 2006. These biomarkers were added to further investigate the relationships between bodily functioning, health behaviors and psychosocial factors.

The IDA-program

The longitudinal research program *Individual Development and Adaptation* (Magnusson, 1988) was initiated in the early 1960s by David Magnusson who remained principal investigator for more than 30 years. In 1996, Lars R. Bergman became the principal investigator with Magnusson still taking active part in the program.

The first data collection within the IDA-program was carried out in 1965 and included all children who were at the time about 10 years old and attended the third grade in compulsory school in Örebro during the terms of 1964/65. All children who later enrolled in these classes in the 6^{th}, 8th or 9th grades were also included in this cohort, which is referred to as *the main group*. The main group included about 1400 boys and girls and has now been followed up to middle-age.

The 1998 data collection

In 1998, when most individuals in the IDA main group were aged about 43, an extensive data collection directed to the women in the main group was carried out (Bergman, 2000). The purpose of this data collection was to study women's work, health and education (for further details on the 1998 data collection. see Bergman. 2000; Näswall, Sverke, Isaksson, Johansson, & Lindroth, 2002). Among other things, this data collection involved an extensive medical examination.

THE 1998 MEDICAL EXAMINATION

Of the women belonging to the main group, a smaller but representative subsample (n = 369) was invited to participate in an extensive medical examination* (Bergman, 2000). This involved the measurement of length, weight, waist/hip ratio, blood pressure, bone density, lung function, and blood sampling. In addition to these measurements, a subsequent health examination was performed. The procedure was analogous to those regularly performed at the community health-care centres and was highly representative for examinations in general practice (e.g., Lindfors, Lundberg, & Lundberg, 2006). In addition, some women took part in psychiatric interviews and tests of memory functioning.

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* The Örebro County Council Ethical Research Committee approved of the project (Protocol 1998 03 16. § 35)

The medical measurements were performed by district nurses at a local county health-care centre and the health examinations were performed by either of two local general practitioners (both women). The 1998 data collection was coordinated by Magnus Sverke, with Bergman acting as principal investigator.

Blood and urinary samples

Blood samples were drawn in fasting state. Urinary samples were also collected in fasting state. Some of these samples were then frozen and stored for later biochemical analysis. Table 1 summarizes the number of samples stored.

Table 1. Number of stored samples for each individual and in total.

Sample	Specification	Number of tubes for each individual	Total
Serum		5	1925
	Heparinplasma	1	385
	Edta-plasma	2	770
	Na-citricplasma	2	770
Homocysteine		1	385
B12		1	385
Urine		5	1925

Note. Samples were calculated 6/9/2005. Serum, homocysteine, B12 and urine are stored in separate boxes. The total volume amounts to approx. 100 boxes.

BIOMARKERS AND BIOCHEMICAL ANALYSIS

Albumin

Traditionally urinary secretion of albumin has been used as a measure of kidney damage. Small albumin losses in the urine (microalbuminuria) indicate kidney damage that is associated with metabolic syndrome (Nilsson-Ehle, 2003).

Urinary albumin was measured using immunoturbidimetric assays (Roche Tina-quant Albumin reagent kit. and DAKO rabbit antibodies with DAKO buffers and calibrators. respctively) on a Hitachi 911 automatic analyzer. The total imprecision ranged between 3% and 11% at 70 and 18 mg/L, respectively.

Creatinine

Creatinine is a breakdown product of creatine, an important part of muscle. Levels of serum creatinine are high if kidney function is abnormal. The increased levels in the blood result from decreased excretion of creatinine in the urine. Creatinine levels vary according to an individual's size and muscle mass. Along with age, weight, and gender, measures of serum creatinine can be used to calculate the estimated glomerular filtration rate (EGFR). EGFR is used to screen for kidney damage (Nilsson-Ehle, 2003).

Serum creatinine (Crea plus enzymatic method) was analysed using kits from Roche/Boehringer (Mannheim. Germany). The total imprecision was 3% at a level of 12 mmol/L.

Folate

Folate, and folic acid, is necessary for the production of adequately functioning DNA. Adequate folate functioning requires vitamin B12. Folate deficiency can result from inadequate diet, malabsorption syndrome or malnutrition (Nilsson-Ehle, 2003).

Folate in serum was measured by a solid-phase time-resolved fluoroimmunoassay which is based on the competitive reaction between europium-labeled pteroylglutamic acid, the stable form of folate. and sample folate for a limited amount of binding sites on Folate-Binding Protein (AutoDelfia™ Folate, Wallace Oy, Turku, Finland). The assay has a chemical pretreatment step to release folate from carrier proteins, and to convert it to a stable, measurable form. In assay, antifolate binding protein antibody is first incubated to an anti-mouse IgG-coated microtitration plate. In the second incubation, Eu-labeled folate tracer, folate sample or standard, and Folate Binding Reagent (containing FBP) are added. The FBP is captured by the anti-FBP antibody, while labeled and unlabeled folate compete for binding sites on the FBP. The total imprecision of this assay is 8% at folate concentrations of 17 nmol/L and 6% at 9 nmol/L.

Homocysteine

Homocysteine can used to determine B12 or folate deficiency. Levels of homocystein can be elevated before B12 or folate concentrations become abnormal. Also, high homocysteine levels have been related to increased risk for heart attack or stroke (Nilsson-Ehle, 2003).

Homocysteine in Stabilyte plasma was determined by a fluorescence polarization immunoassay on an IMx® unit (Abbott Laboratories, Illinois, USA) was used. Total imprecision was 3.4%.

Methylmalonate

Methylmalonate (MMA) is used to diagnose early or mild B12 deficiency. Low B12 levels result in increased MMA. Also, kidney disease can increase blood levels of MMA. This results from decreased MMA excretion in the urine causing MMA to accumulate in the blood (Nilsson-Ehle, 2003).

MMA was measured in serum using combined gas chromatography-mass spectrometry (GC-MS, ThermoFinnigan, San José, California, USA). The procedure is based on stable isotope dilution with solid phase extraction of the sample being followed by derivatisation with pentafluorobenzylbromide. The derivate product is measured using ion-trap mass spectrometry. The total imprecision of this assay is 6.8% and 5.6% at MMA levels 0.19 μmol/L and 0.45 μmol/L respectively.

Protein HC

Protein HC (alpha-1-microglobulin) is produced in liver cells. Increased levels of urinary protein HC indicate tubular damage (Nilsson-Ehle, 2003).

Urinary protein HC was measured using the same method as for urinary albumin. The total imprecision was 4.6% for the Protein HC at 13 mg/L. Serum creatinine (Crea plus. enzymatic method) was analyzed using kits from Roche/Boehringer (Mannheim, Germany); total imprecision was 3% at a level of 12 mmol/L.

Vitamin B12

Vitamin B12 is essential for the formation of red blood cells and bone marrow, is important for nervous mechanisms and metabolic processes. B12 deficiency results from malabsorption. Early symptoms of decreased B12 levels include fatigue, dizziness and anxiety. B12 deficiency is related to increased levels of homocysteine and MMA (Nilsson-Ehle, 2003).

B12 in serum was measured using the same technology as for the analysis of folate (AutoDelfia™ B12, Wallac Oy, Turku, Finland). The total imprecision of this assay is 7% at B12 concentrations of 259 pmol/L.

Ratio measures

It should be noted that different ratio measures, including ratios of U-Albumin/U-creatinine (Albumin/Creatinine Ratio; ACR) and U-Protein HC/U-albumin, respectively, can be calculated and used as measures of glomerular and tubular function, respectively, according to published guidelines and reference values (Kouri et al., 2000a and b).

INTERRELATIONSHIPS BETWEEN BIOMARKERS

Table 2 presents interrelationships between the different biomarkers for all women (n = 309) with complete data available on all measures. In view of the distribution of the data, both parametric and non-parametric correlation coefficients are reported. Missing data are mainly due to failures during the biochemical analyses. As reported in the Appendix, missing data were highest for protein HC (Appendix, Table 6, valid n = 328) and albumin (Appendix, Table 7, valid n = 351).

To highlight some of the interrelationships in Table 2, both parametric and non-parametric coefficients show a positive association between B12 and folate. In contrast, both parametric and non-parametric coefficients show an inverse association between B12 and homocysteine.

Table 2. Correlations (r_p and r_s) between biomarkers and descriptive statistics for each biomarkers. No outliers have been deleted. All cases with complete data are included (n = 309).

Biomarker	1.	2.	3.	4.	5.	6.	7.	*M*	*SD*
1. Homocystein	—	-.55****	-.29****	.04	.07	.04	.12*	11.01	3.92
2. Folate	-.31****	—	.26***	-.08	-.08	-.03	-.09	13.37	9.78
3. B12	-.12*	.58****	—	-.07	-.09	-.19***	-.06	350.72	781.43
4. Albumin	.01	-.05	-.02	—	.50****	.05	.39****	13.67	59.16
5. Creatinine	.06	-.06	-.05	.09	—	.03	.53****	8.37	5.80
6. MMA	.08	-.10	-.10	-.00	.00	—	-.00	0.20	0.08
7. Protein HC	.04	-.05	-.02	.26****	.40****	-.01	—	2.86	3.92

Note. Lower matrix = r_p; Upper matrix = r_s

* $p < .05$.
** $p < .01$.
*** $p < .001$.
**** $p < .0001$.

ACKNOWLEDGEMENTS

The biochemical analyses were financed by grants to Petra Lindfors from the Hierta-Retzius Foundation at the Royal Swedish Academy of Sciences and to Torbjörn K. Nilsson from the Örebro County Council.

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APPENDIX

Frequency tables for all single biomarkers. All available cases are included.

Table 1. Homocysteine (μmol/L)

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5.60	1	.3	.3	.3
	5.90	1	.3	.3	.6
	6.10	1	.3	.3	.8
	6.20	1	.3	.3	1.1
	6.30	1	.3	.3	1.4
	6.40	1	.3	.3	1.7
	6.50	4	1.1	1.1	2.8
	6.60	4	1.1	1.1	3.9
	6.70	2	.5	.6	4.5
	6.80	1	.3	.3	4.7
	6.90	2	.5	.6	5.3
	7.00	1	.3	.3	5.6
	7.10	2	.5	.6	6.1
	7.20	3	.8	.8	7.0
	7.30	2	.5	.6	7.5
	7.40	1	.3	.3	7.8
	7.50	5	1.3	1.4	9.2
	7.60	5	1.3	1.4	10.6
	7.70	5	1.3	1.4	12.0
	7.80	3	.8	.8	12.8
	7.90	3	.8	.8	13.6
	8.00	3	.8	.8	14.5
	8.10	6	1.6	1.7	16.2
	8.20	4	1.1	1.1	17.3
	8.30	9	2.4	2.5	19.8
	8.40	5	1.3	1.4	21.2
	8.50	2	.5	.6	21.7
	8.60	3	.8	.8	22.6
	8.70	7	1.9	1.9	24.5
	8.80	7	1.9	1.9	26.5
	8.90	6	1.6	1.7	28.1
	9.00	5	1.3	1.4	29.5
	9.10	6	1.6	1.7	31.2
	9.20	8	2.1	2.2	33.4
	9.30	6	1.6	1.7	35.1
	9.40	3	.8	.8	35.9
	9.50	9	2.4	2.5	38.4
	9.60	1	.3	.3	38.7
	9.70	4	1.1	1.1	39.8
	9.80	7	1.9	1.9	41.8
	9.90	5	1.3	1.4	43.2
	10.00	7	1.9	1.9	45.1
	10.10	3	.8	.8	46.0
	10.20	4	1.1	1.1	47.1
	10.30	9	2.4	2.5	49.6
	10.40	8	2.1	2.2	51.8
	10.50	9	2.4	2.5	54.3
	10.60	6	1.6	1.7	56.0
	10.70	2	.5	.6	56.5
	10.80	9	2.4	2.5	59.1
	10.90	4	1.1	1.1	60.2

Table 1. Homocysteine *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
11.00	2	.5	.6	60.7
11.10	6	1.6	1.7	62.4
11.20	6	1.6	1.7	64.1
11.30	2	.5	.6	64.6
11.40	4	1.1	1.1	65.7
11.50	3	.8	.8	66.6
11.60	4	1.1	1.1	67.7
11.70	5	1.3	1.4	69.1
11.80	4	1.1	1.1	70.2
11.90	3	.8	.8	71.0
12.00	6	1.6	1.7	72.7
12.10	3	.8	.8	73.5
12.20	2	.5	.6	74.1
12.30	4	1.1	1.1	75.2
12.40	7	1.9	1.9	77.2
12.50	2	.5	.6	77.7
12.60	5	1.3	1.4	79.1
12.70	2	.5	.6	79.7
12.80	4	1.1	1.1	80.8
12.90	2	.5	.6	81.3
13.00	3	.8	.8	82.2
13.20	5	1.3	1.4	83.6
13.30	1	.3	.3	83.8
13.40	5	1.3	1.4	85.2
13.70	1	.3	.3	85.5
13.80	3	.8	.8	86.4
13.90	1	.3	.3	86.6
14.00	3	.8	.8	87.5
14.20	1	.3	.3	87.7
14.30	4	1.1	1.1	88.9
14.40	2	.5	.6	89.4
14.60	2	.5	.6	90.0
14.80	2	.5	.6	90.5
14.90	1	.3	.3	90.8
15.00	2	.5	.6	91.4
15.30	4	1.1	1.1	92.5
15.40	1	.3	.3	92.8
15.60	1	.3	.3	93.0
15.70	1	.3	.3	93.3
16.00	1	.3	.3	93.6
16.10	3	.8	.8	94.4
16.20	1	.3	.3	94.7
16.60	1	.3	.3	95.0
17.00	1	.3	.3	95.3
17.40	2	.5	.6	95.8
17.60	1	.3	.3	96.1
17.80	1	.3	.3	96.4
18.20	1	.3	.3	96.7
18.50	1	.3	.3	96.9
18.80	1	.3	.3	97.2
19.60	1	.3	.3	97.5
20.10	1	.3	.3	97.8
20.30	1	.3	.3	98.1
21.90	1	.3	.3	98.3
22.00	1	.3	.3	98.6

Table 1. Homocysteine *cont'd.*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	23.10	1	.3	.3	98.9
	24.50	1	.3	.3	99.2
	35.80	1	.3	.3	99.4
	36.00	1	.3	.3	99.7
	38.10	1	.3	.3	100.0
Total		359	95.5	100.0	
Missing		17	4.5		
Total		376	100.0		

Table 2. Folate (nmol/L)

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.20	1	.3	.3	.3
	4.10	1	.3	.3	.6
	4.40	1	.3	.3	.8
	5.20	2	.5	.6	1.4
	5.40	2	.5	.6	1.9
	5.60	1	.3	.3	2.2
	5.80	1	.3	.3	2.5
	5.90	1	.3	.3	2.8
	6.00	1	.3	.3	3.1
	6.10	1	.3	.3	3.3
	6.20	4	1.1	1.1	4.5
	6.30	2	.5	.6	5.0
	6.40	3	.8	.8	5.8
	6.50	2	.5	.6	6.4
	6.60	2	.5	.6	7.0
	6.70	2	.5	.6	7.5
	6.90	3	.8	.8	8.4
	7.00	1	.3	.3	8.6
	7.20	4	1.1	1.1	9.7
	7.30	1	.3	.3	10.0
	7.40	1	.3	.3	10.3
	7.50	2	.5	.6	10.9
	7.60	2	.5	.6	11.4
	7.70	1	.3	.3	11.7
	7.80	3	.8	.8	12.5
	7.90	1	.3	.3	12.8
	8.00	3	.8	.8	13.6
	8.10	2	.5	.6	14.2
	8.20	2	.5	.6	14.8
	8.30	5	1.3	1.4	16.2
	8.40	3	.8	.8	17.0
	8.50	4	1.1	1.1	18.1
	8.60	3	.8	.8	18.9
	8.70	4	1.1	1.1	20.1
	8.80	5	1.3	1.4	21.4
	8.90	1	.3	.3	21.7
	9.00	2	.5	.6	22.3
	9.10	3	.8	.8	23.1
	9.20	6	1.6	1.7	24.8
	9.30	2	.5	.6	25.3
	9.40	7	1.9	1.9	27.3
	9.50	5	1.3	1.4	28.7
	9.60	6	1.6	1.7	30.4

Table 2. Folate *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
9.70	1	.3	.3	30.6
9.80	7	1.9	1.9	32.6
9.90	4	1.1	1.1	33.7
9.91	1	.3	.3	34.0
10.00	4	1.1	1.1	35.1
10.10	4	1.1	1.1	36.2
10.20	3	.8	.8	37.0
10.30	2	.5	.6	37.6
10.40	2	.5	.6	38.2
10.50	8	2.1	2.2	40.4
10.60	2	.5	.6	40.9
10.70	6	1.6	1.7	42.6
10.80	1	.3	.3	42.9
10.90	6	1.6	1.7	44.6
11.00	5	1.3	1.4	46.0
11.10	4	1.1	1.1	47.1
11.20	5	1.3	1.4	48.5
11.30	5	1.3	1.4	49.9
11.40	1	.3	.3	50.1
11.50	6	1.6	1.7	51.8
11.60	4	1.1	1.1	52.9
11.70	5	1.3	1.4	54.3
11.80	2	.5	.6	54.9
11.90	3	.8	.8	55.7
12.00	3	.8	.8	56.5
12.10	1	.3	.3	56.8
12.20	5	1.3	1.4	58.2
12.30	2	.5	.6	58.8
12.40	4	1.1	1.1	59.9
12.50	2	.5	.6	60.4
12.60	3	.8	.8	61.3
12.70	1	.3	.3	61.6
12.80	1	.3	.3	61.8
12.90	3	.8	.8	62.7
13.00	3	.8	.8	63.5
13.10	5	1.3	1.4	64.9
13.20	3	.8	.8	65.7
13.30	4	1.1	1.1	66.9
13.40	6	1.6	1.7	68.5
13.50	5	1.3	1.4	69.9
13.70	2	.5	.6	70.5
13.80	3	.8	.8	71.3
13.90	3	.8	.8	72.1
14.10	3	.8	.8	73.0
14.20	5	1.3	1.4	74.4
14.30	3	.8	.8	75.2
14.40	2	.5	.6	75.8
14.50	2	.5	.6	76.3
14.60	7	1.9	1.9	78.3
14.80	2	.5	.6	78.8
14.90	2	.5	.6	79.4
15.10	2	.5	.6	79.9
15.20	4	1.1	1.1	81.1
15.30	3	.8	.8	81.9
15.50	1	.3	.3	82.2

Table 2. Folate *cont'd.*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	15.70	2	.5	.6	82.7
	15.80	6	1.6	1.7	84.4
	16.20	1	.3	.3	84.7
	16.40	1	.3	.3	85.0
	16.50	1	.3	.3	85.2
	16.60	2	.5	.6	85.8
	16.80	1	.3	.3	86.1
	16.90	2	.5	.6	86.6
	17.10	1	.3	.3	86.9
	17.20	1	.3	.3	87.2
	17.40	2	.5	.6	87.7
	17.50	1	.3	.3	88.0
	17.70	1	.3	.3	88.3
	17.90	1	.3	.3	88.6
	18.00	1	.3	.3	88.9
	18.10	1	.3	.3	89.1
	18.40	1	.3	.3	89.4
	18.60	1	.3	.3	89.7
	19.10	3	.8	.8	90.5
	19.60	1	.3	.3	90.8
	19.90	1	.3	.3	91.1
	20.00	1	.3	.3	91.4
	20.10	1	.3	.3	91.6
	20.30	1	.3	.3	91.9
	20.80	1	.3	.3	92.2
	21.20	1	.3	.3	92.5
	21.50	2	.5	.6	93.0
	21.70	2	.5	.6	93.6
	21.80	2	.5	.6	94.2
	23.70	1	.3	.3	94.4
	24.60	1	.3	.3	94.7
	24.70	1	.3	.3	95.0
	24.80	1	.3	.3	95.3
	26.60	1	.3	.3	95.5
	27.00	1	.3	.3	95.8
	28.30	1	.3	.3	96.1
	28.70	1	.3	.3	96.4
	29.60	1	.3	.3	96.7
	29.80	1	.3	.3	96.9
	29.90	1	.3	.3	97.2
	31.40	1	.3	.3	97.5
	34.40	1	.3	.3	97.8
	40.00	1	.3	.3	98.1
	41.00	1	.3	.3	98.3
	42.50	1	.3	.3	98.6
	48.80	1	.3	.3	98.9
	49.90	1	.3	.3	99.2
	65.60	1	.3	.3	99.4
	73.80	1	.3	.3	99.7
	118.00	1	.3	.3	100.0
	Total	359	95.5	100.0	
Missing	System	17	4.5		
Total		376	100.0		

Table 3. Vitamin B12 (pmol/L).

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	69.50	1	.3	.3	.3
	103.00	1	.3	.3	.6
	112.00	1	.3	.3	.8
	135.00	1	.3	.3	1.1
	151.00	1	.3	.3	1.4
	154.00	1	.3	.3	1.7
	159.00	1	.3	.3	1.9
	160.00	1	.3	.3	2.2
	162.00	3	.8	.8	3.1
	163.00	1	.3	.3	3.3
	165.00	1	.3	.3	3.6
	167.00	1	.3	.3	3.9
	171.00	1	.3	.3	4.2
	174.00	1	.3	.3	4.5
	175.00	2	.5	.6	5.0
	177.00	2	.5	.6	5.6
	178.00	2	.5	.6	6.1
	179.00	2	.5	.6	6.7
	180.00	1	.3	.3	7.0
	183.00	1	.3	.3	7.2
	185.00	1	.3	.3	7.5
	187.00	1	.3	.3	7.8
	188.00	2	.5	.6	8.4
	189.00	1	.3	.3	8.6
	190.00	1	.3	.3	8.9
	192.00	1	.3	.3	9.2
	193.00	1	.3	.3	9.5
	194.00	1	.3	.3	9.7
	195.00	1	.3	.3	10.0
	196.00	1	.3	.3	10.3
	197.00	1	.3	.3	10.6
	199.00	2	.5	.6	11.1
	200.00	1	.3	.3	11.4
	201.00	1	.3	.3	11.7
	202.00	1	.3	.3	12.0
	204.00	2	.5	.6	12.5
	205.00	5	1.3	1.4	13.9
	207.00	2	.5	.6	14.5
	208.00	2	.5	.6	15.0
	209.00	3	.8	.8	15.9
	210.00	1	.3	.3	16.2
	211.00	3	.8	.8	17.0
	213.00	3	.8	.8	17.8
	214.00	1	.3	.3	18.1
	215.00	2	.5	.6	18.7
	216.00	2	.5	.6	19.2
	217.00	3	.8	.8	20.1
	218.00	2	.5	.6	20.6
	219.00	3	.8	.8	21.4
	220.00	3	.8	.8	22.3
	221.00	1	.3	.3	22.6
	223.00	4	1.1	1.1	23.7
	224.00	1	.3	.3	24.0
	229.00	2	.5	.6	24.5
	230.00	1	.3	.3	24.8

Table 3. Vitamin B12 *cont'd.*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	382.00	2	.5	.6	91.4
	383.00	1	.3	.3	91.6
	386.00	1	.3	.3	91.9
	387.00	1	.3	.3	92.2
	388.00	2	.5	.6	92.8
	389.00	2	.5	.6	93.3
	394.00	1	.3	.3	93.6
	395.00	1	.3	.3	93.9
	402.00	2	.5	.6	94.4
	408.00	1	.3	.3	94.7
	410.00	1	.3	.3	95.0
	411.00	1	.3	.3	95.3
	422.00	2	.5	.6	95.8
	426.00	1	.3	.3	96.1
	428.00	1	.3	.3	96.4
	429.00	1	.3	.3	96.7
	436.00	1	.3	.3	96.9
	454.00	2	.5	.6	97.5
	488.00	1	.3	.3	97.8
	494.00	1	.3	.3	98.1
	678.00	1	.3	.3	98.3
	686.00	1	.3	.3	98.6
	1870.00	1	.3	.3	98.9
	2390.00	1	.3	.3	99.2
	2770.00	1	.3	.3	99.4
	6700.00	1	.3	.3	99.7
	12100.00	1	.3	.3	100.0
	Total	359	95.5	100.0	
Missing	System	17	4.5		
Total		376	100.0		

Table 3. Vitamin B12 *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
231.00	3	.8	.8	25.6
233.00	1	.3	.3	25.9
234.00	3	.8	.8	26.7
235.00	3	.8	.8	27.6
236.00	2	.5	.6	28.1
238.00	3	.8	.8	29.0
240.00	1	.3	.3	29.2
241.00	4	1.1	1.1	30.4
242.00	1	.3	.3	30.6
243.00	2	.5	.6	31.2
244.00	4	1.1	1.1	32.3
245.00	3	.8	.8	33.1
247.00	1	.3	.3	33.4
248.00	3	.8	.8	34.3
249.00	2	.5	.6	34.8
250.00	1	.3	.3	35.1
251.00	2	.5	.6	35.7
252.00	3	.8	.8	36.5
253.00	1	.3	.3	36.8
254.00	1	.3	.3	37.0
255.00	2	.5	.6	37.6
256.00	3	.8	.8	38.4
257.00	4	1.1	1.1	39.6
258.00	1	.3	.3	39.8
260.00	3	.8	.8	40.7
261.00	3	.8	.8	41.5
262.00	2	.5	.6	42.1
265.00	1	.3	.3	42.3
266.00	2	.5	.6	42.9
267.00	2	.5	.6	43.5
269.00	3	.8	.8	44.3
270.00	3	.8	.8	45.1
271.00	2	.5	.6	45.7
272.00	1	.3	.3	46.0
273.00	2	.5	.6	46.5
274.00	1	.3	.3	46.8
275.00	3	.8	.8	47.6
276.00	5	1.3	1.4	49.0
277.00	4	1.1	1.1	50.1
278.00	2	.5	.6	50.7
279.00	6	1.6	1.7	52.4
280.00	3	.8	.8	53.2
281.00	3	.8	.8	54.0
283.00	3	.8	.8	54.9
284.00	3	.8	.8	55.7
286.00	5	1.3	1.4	57.1
287.00	2	.5	.6	57.7
288.00	1	.3	.3	57.9
289.00	1	.3	.3	58.2
290.00	3	.8	.8	59.1
291.00	7	1.9	1.9	61.0
292.00	1	.3	.3	61.3
293.00	2	.5	.6	61.8
294.00	5	1.3	1.4	63.2
295.00	1	.3	.3	63.5

Table 4. Methylmelonate (MMA) µmol/L.

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.08	2	.5	.6	.6
	.09	2	.5	.6	1.1
	.10	4	1.1	1.1	2.2
	.11	9	2.4	2.5	4.7
	.12	15	4.0	4.2	8.9
	.13	20	5.3	5.6	14.5
	.14	29	7.7	8.1	22.6
	.15	23	6.1	6.4	29.1
	.16	31	8.2	8.7	37.7
	.17	30	8.0	8.4	46.1
	.18	38	10.1	10.6	56.7
	.19	23	6.1	6.4	63.1
	.20	21	5.6	5.9	69.0
	.21	21	5.6	5.9	74.9
	.22	7	1.9	2.0	76.8
	.23	12	3.2	3.4	80.2
	.24	8	2.1	2.2	82.4
	.25	8	2.1	2.2	84.6
	.26	5	1.3	1.4	86.0
	.27	7	1.9	2.0	88.0
	.28	5	1.3	1.4	89.4
	.29	6	1.6	1.7	91.1
	.30	1	.3	.3	91.3
	.31	6	1.6	1.7	93.0
	.32	6	1.6	1.7	94.7
	.33	1	.3	.3	95.0
	.34	1	.3	.3	95.3
	.35	2	.5	.6	95.8
	.36	3	.8	.8	96.6
	.37	2	.5	.6	97.2
	.39	2	.5	.6	97.8
	.46	1	.3	.3	98.0
	.47	1	.3	.3	98.3
	.53	1	.3	.3	98.6
	.54	1	.3	.3	98.9
	.60	1	.3	.3	99.2
	.62	1	.3	.3	99.4
	.67	1	.3	.3	99.7
	.73	1	.3	.3	100.0
	Total	358	95.2	100.0	
Missing	System	18	4.8		
Total		376	100.0		

Table 5. Creatinine

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.99	2	.5	.6	.6
	1.10	1	.3	.3	.8
	1.32	4	1.1	1.1	2.0
	1.43	5	1.3	1.4	3.4
	1.54	2	.5	.6	3.9
	1.65	5	1.3	1.4	5.3
	1.76	2	.5	.6	5.9
	1.87	1	.3	.3	6.2
	1.98	4	1.1	1.1	7.3
	2.09	3	.8	.8	8.1
	2.20	1	.3	.3	8.4
	2.31	5	1.3	1.4	9.8
	2.42	8	2.1	2.2	12.1
	2.53	5	1.3	1.4	13.5
	2.64	4	1.1	1.1	14.6
	2.75	4	1.1	1.1	15.7
	2.86	4	1.1	1.1	16.9
	2.97	3	.8	.8	17.7
	3.08	4	1.1	1.1	18.8
	3.19	7	1.9	2.0	20.8
	3.30	6	1.6	1.7	22.5
	3.41	4	1.1	1.1	23.6
	3.52	3	.8	.8	24.4
	3.63	7	1.9	2.0	26.4
	3.74	4	1.1	1.1	27.5
	3.85	6	1.6	1.7	29.2
	3.96	7	1.9	2.0	31.2
	4.07	3	.8	.8	32.0
	4.18	1	.3	.3	32.3
	4.29	3	.8	.8	33.1
	4.51	2	.5	.6	33.7
	4.62	2	.5	.6	34.3
	4.73	7	1.9	2.0	36.2
	4.84	1	.3	.3	36.5
	4.95	1	.3	.3	36.8
	5.06	2	.5	.6	37.4
	5.17	7	1.9	2.0	39.3
	5.28	2	.5	.6	39.9
	5.39	5	1.3	1.4	41.3
	5.50	1	.3	.3	41.6
	5.61	4	1.1	1.1	42.7
	5.72	3	.8	.8	43.5
	5.83	3	.8	.8	44.4
	5.94	4	1.1	1.1	45.5
	6.05	1	.3	.3	45.8
	6.27	3	.8	.8	46.6
	6.38	3	.8	.8	47.5
	6.49	3	.8	.8	48.3
	6.60	4	1.1	1.1	49.4
	6.71	1	.3	.3	49.7
	6.82	2	.5	.6	50.3
	6.93	3	.8	.8	51.1
	7.15	1	.3	.3	51.4
	7.26	2	.5	.6	52.0
	7.48	1	.3	.3	52.2

Table 5. Creatinine *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
7.59	2	.5	.6	52.8
7.70	4	1.1	1.1	53.9
8.14	4	1.1	1.1	55.1
8.25	1	.3	.3	55.3
8.36	5	1.3	1.4	56.7
8.47	2	.5	.6	57.3
8.58	2	.5	.6	57.9
8.69	1	.3	.3	58.1
8.80	4	1.1	1.1	59.3
8.91	2	.5	.6	59.8
9.02	5	1.3	1.4	61.2
9.13	4	1.1	1.1	62.4
9.24	4	1.1	1.1	63.5
9.35	1	.3	.3	63.8
9.46	5	1.3	1.4	65.2
9.57	5	1.3	1.4	66.6
9.68	3	.8	.8	67.4
10.01	1	.3	.3	67.7
10.12	4	1.1	1.1	68.8
10.34	4	1.1	1.1	69.9
10.45	2	.5	.6	70.5
10.56	1	.3	.3	70.8
10.67	1	.3	.3	71.1
10.89	2	.5	.6	71.6
11.22	4	1.1	1.1	72.8
11.33	1	.3	.3	73.0
11.44	1	.3	.3	73.3
11.55	1	.3	.3	73.6
11.77	1	.3	.3	73.9
11.88	1	.3	.3	74.2
11.99	1	.3	.3	74.4
12.10	3	.8	.8	75.3
12.21	2	.5	.6	75.8
12.32	1	.3	.3	76.1
12.43	1	.3	.3	76.4
12.54	2	.5	.6	77.0
12.65	3	.8	.8	77.8
12.76	1	.3	.3	78.1
12.87	1	.3	.3	78.4
13.09	1	.3	.3	78.7
13.20	4	1.1	1.1	79.8
13.42	3	.8	.8	80.6
13.53	3	.8	.8	81.5
13.64	3	.8	.8	82.3
13.86	1	.3	.3	82.6
13.97	1	.3	.3	82.9
14.19	2	.5	.6	83.4
14.30	4	1.1	1.1	84.6
14.41	1	.3	.3	84.8
14.52	1	.3	.3	85.1
14.63	1	.3	.3	85.4
14.74	1	.3	.3	85.7
14.85	4	1.1	1.1	86.8
15.07	1	.3	.3	87.1
15.18	2	.5	.6	87.6

Table 5. Creatinine *cont'd.*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	15.29	1	.3	.3	87.9
	15.51	1	.3	.3	88.2
	15.62	1	.3	.3	88.5
	15.73	3	.8	.8	89.3
	15.84	1	.3	.3	89.6
	16.06	1	.3	.3	89.9
	16.28	1	.3	.3	90.2
	16.50	2	.5	.6	90.7
	16.72	1	.3	.3	91.0
	16.83	1	.3	.3	91.3
	16.94	1	.3	.3	91.6
	17.16	1	.3	.3	91.9
	17.38	1	.3	.3	92.1
	17.60	1	.3	.3	92.4
	17.93	2	.5	.6	93.0
	18.04	2	.5	.6	93.5
	18.81	1	.3	.3	93.8
	18.92	1	.3	.3	94.1
	19.69	1	.3	.3	94.4
	19.80	1	.3	.3	94.7
	20.24	1	.3	.3	94.9
	20.35	1	.3	.3	95.2
	20.57	1	.3	.3	95.5
	20.68	2	.5	.6	96.1
	20.79	2	.5	.6	96.6
	21.34	2	.5	.6	97.2
	22.44	1	.3	.3	97.5
	22.55	1	.3	.3	97.8
	22.66	1	.3	.3	98.0
	22.99	1	.3	.3	98.3
	23.98	2	.5	.6	98.9
	24.42	1	.3	.3	99.2
	24.53	1	.3	.3	99.4
	24.75	1	.3	.3	99.7
	37.73	1	.3	.3	100.0
	Total	356	94.7	100.0	
Missing	System	20	5.3		
Total		376	100.0		

Table 6. Protein HC

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.22	1	.3	.3	.3
	.24	1	.3	.3	.6
	.26	1	.3	.3	.9
	.28	1	.3	.3	1.2
	.30	1	.3	.3	1.5
	.32	1	.3	.3	1.8
	.33	1	.3	.3	2.1
	.34	1	.3	.3	2.4
	.37	1	.3	.3	2.7
	.40	1	.3	.3	3.0
	.41	2	.5	.6	3.7
	.43	1	.3	.3	4.0
	.46	1	.3	.3	4.3

Table 6. Protein *HC cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
.48	1	.3	.3	4.6
.51	1	.3	.3	4.9
.53	1	.3	.3	5.2
.54	1	.3	.3	5.5
.56	1	.3	.3	5.8
.58	2	.5	.6	6.4
.60	1	.3	.3	6.7
.61	1	.3	.3	7.0
.62	2	.5	.6	7.6
.63	1	.3	.3	7.9
.65	1	.3	.3	8.2
.68	1	.3	.3	8.5
.69	2	.5	.6	9.1
.71	2	.5	.6	9.8
.74	2	.5	.6	10.4
.76	2	.5	.6	11.0
.78	1	.3	.3	11.3
.79	3	.8	.9	12.2
.80	4	1.1	1.2	13.4
.81	2	.5	.6	14.0
.83	2	.5	.6	14.6
.84	1	.3	.3	14.9
.85	2	.5	.6	15.5
.86	1	.3	.3	15.9
.87	2	.5	.6	16.5
.88	3	.8	.9	17.4
.89	2	.5	.6	18.0
.91	1	.3	.3	18.3
.92	2	.5	.6	18.9
.93	2	.5	.6	19.5
.94	1	.3	.3	19.8
.95	1	.3	.3	20.1
.96	1	.3	.3	20.4
.97	2	.5	.6	21.0
.98	3	.8	.9	22.0
.99	2	.5	.6	22.6
1.01	2	.5	.6	23.2
1.03	3	.8	.9	24.1
1.04	3	.8	.9	25.0
1.05	1	.3	.3	25.3
1.06	3	.8	.9	26.2
1.07	2	.5	.6	26.8
1.08	2	.5	.6	27.4
1.09	3	.8	.9	28.4
1.10	3	.8	.9	29.3
1.11	2	.5	.6	29.9
1.12	2	.5	.6	30.5
1.13	1	.3	.3	30.8
1.14	3	.8	.9	31.7
1.15	4	1.1	1.2	32.9
1.16	2	.5	.6	33.5
1.17	1	.3	.3	33.8
1.18	1	.3	.3	34.1
1.20	2	.5	.6	34.8
1.22	3	.8	.9	35.7

Table 6. Protein HC *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
1.23	2	.5	.6	36.3
1.24	1	.3	.3	36.6
1.25	2	.5	.6	37.2
1.26	3	.8	.9	38.1
1.27	4	1.1	1.2	39.3
1.28	4	1.1	1.2	40.5
1.30	1	.3	.3	40.9
1.31	2	.5	.6	41.5
1.32	3	.8	.9	42.4
1.33	1	.3	.3	42.7
1.34	1	.3	.3	43.0
1.36	2	.5	.6	43.6
1.37	1	.3	.3	43.9
1.38	1	.3	.3	44.2
1.39	3	.8	.9	45.1
1.40	1	.3	.3	45.4
1.43	2	.5	.6	46.0
1.44	2	.5	.6	46.6
1.45	1	.3	.3	47.0
1.47	1	.3	.3	47.3
1.48	3	.8	.9	48.2
1.49	2	.5	.6	48.8
1.50	3	.8	.9	49.7
1.51	4	1.1	1.2	50.9
1.52	4	1.1	1.2	52.1
1.54	1	.3	.3	52.4
1.55	2	.5	.6	53.0
1.56	3	.8	.9	54.0
1.57	1	.3	.3	54.3
1.59	1	.3	.3	54.6
1.60	2	.5	.6	55.2
1.62	1	.3	.3	55.5
1.64	2	.5	.6	56.1
1.66	2	.5	.6	56.7
1.68	1	.3	.3	57.0
1.69	1	.3	.3	57.3
1.70	2	.5	.6	57.9
1.73	1	.3	.3	58.2
1.75	1	.3	.3	58.5
1.76	1	.3	.3	58.8
1.80	2	.5	.6	59.5
1.82	1	.3	.3	59.8
1.83	1	.3	.3	60.1
1.88	1	.3	.3	60.4
1.89	1	.3	.3	60.7
1.91	2	.5	.6	61.3
1.92	1	.3	.3	61.6
1.94	1	.3	.3	61.9
1.98	1	.3	.3	62.2
2.01	1	.3	.3	62.5
2.02	1	.3	.3	62.8
2.03	1	.3	.3	63.1
2.05	1	.3	.3	63.4
2.06	1	.3	.3	63.7
2.08	1	.3	.3	64.0

Table 6. Protein HC *cont'd*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
2.09	1	.3	.3	64.3
2.10	4	1.1	1.2	65.5
2.11	1	.3	.3	65.9
2.12	3	.8	.9	66.8
2.13	1	.3	.3	67.1
2.14	1	.3	.3	67.4
2.15	1	.3	.3	67.7
2.16	2	.5	.6	68.3
2.17	1	.3	.3	68.6
2.18	1	.3	.3	68.9
2.20	1	.3	.3	69.2
2.30	1	.3	.3	69.5
2.34	1	.3	.3	69.8
2.38	1	.3	.3	70.1
2.39	3	.8	.9	71.0
2.41	2	.5	.6	71.6
2.46	1	.3	.3	72.0
2.47	1	.3	.3	72.3
2.49	2	.5	.6	72.9
2.50	1	.3	.3	73.2
2.52	1	.3	.3	73.5
2.60	1	.3	.3	73.8
2.65	1	.3	.3	74.1
2.72	1	.3	.3	74.4
2.73	1	.3	.3	74.7
2.75	2	.5	.6	75.3
2.77	1	.3	.3	75.6
2.86	1	.3	.3	75.9
2.92	1	.3	.3	76.2
2.95	2	.5	.6	76.8
2.96	1	.3	.3	77.1
2.98	1	.3	.3	77.4
3.03	1	.3	.3	77.7
3.16	1	.3	.3	78.0
3.32	1	.3	.3	78.4
3.39	2	.5	.6	79.0
3.59	1	.3	.3	79.3
3.60	1	.3	.3	79.6
3.61	1	.3	.3	79.9
3.71	1	.3	.3	80.2
3.80	1	.3	.3	80.5
3.89	1	.3	.3	80.8
3.91	1	.3	.3	81.1
3.97	1	.3	.3	81.4
4.03	1	.3	.3	81.7
4.19	1	.3	.3	82.0
4.20	1	.3	.3	82.3
4.22	1	.3	.3	82.6
4.23	1	.3	.3	82.9
4.40	1	.3	.3	83.2
4.60	1	.3	.3	83.5
4.63	1	.3	.3	83.8
4.78	1	.3	.3	84.1
4.94	1	.3	.3	84.5
4.95	1	.3	.3	84.8

Table 6. Protein HC *cont'd*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	4.96	1	.3	.3	85.1
	5.12	1	.3	.3	85.4
	5.18	1	.3	.3	85.7
	5.22	1	.3	.3	86.0
	5.29	1	.3	.3	86.3
	5.38	1	.3	.3	86.6
	5.46	1	.3	.3	86.9
	5.60	1	.3	.3	87.2
	5.70	1	.3	.3	87.5
	5.72	1	.3	.3	87.8
	5.73	1	.3	.3	88.1
	5.88	1	.3	.3	88.4
	5.93	1	.3	.3	88.7
	5.94	2	.5	.6	89.3
	6.04	1	.3	.3	89.6
	6.14	1	.3	.3	89.9
	6.21	1	.3	.3	90.2
	6.68	1	.3	.3	90.5
	7.38	1	.3	.3	90.9
	7.39	1	.3	.3	91.2
	7.62	1	.3	.3	91.5
	7.68	1	.3	.3	91.8
	7.82	1	.3	.3	92.1
	7.88	1	.3	.3	92.4
	8.09	1	.3	.3	92.7
	8.20	1	.3	.3	93.0
	8.34	1	.3	.3	93.3
	8.86	1	.3	.3	93.6
	9.38	1	.3	.3	93.9
	9.73	1	.3	.3	94.2
	10.08	1	.3	.3	94.5
	10.44	1	.3	.3	94.8
	10.53	1	.3	.3	95.1
	10.87	1	.3	.3	95.4
	11.29	1	.3	.3	95.7
	11.47	1	.3	.3	96.0
	11.57	1	.3	.3	96.3
	13.47	1	.3	.3	96.6
	13.55	1	.3	.3	97.0
	13.80	1	.3	.3	97.3
	13.85	1	.3	.3	97.6
	14.51	1	.3	.3	97.9
	15.33	1	.3	.3	98.2
	16.01	1	.3	.3	98.5
	20.38	1	.3	.3	98.8
	22.97	1	.3	.3	99.1
	24.21	1	.3	.3	99.4
	26.67	1	.3	.3	99.7
	26.77	1	.3	.3	100.0
	Total	328	87.2	100.0	
Missing	System	48	12.8		
Total		376	100.0		

Table 7. Albumin

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.20	1	.3	.3	.3
	.30	1	.3	.3	.6
	.40	5	1.3	1.4	2.0
	.50	4	1.1	1.1	3.1
	.60	2	.5	.6	3.7
	.70	4	1.1	1.1	4.8
	.80	5	1.3	1.4	6.3
	.90	9	2.4	2.6	8.8
	1.00	8	2.1	2.3	11.1
	1.10	9	2.4	2.6	13.7
	1.20	6	1.6	1.7	15.4
	1.30	3	.8	.9	16.2
	1.40	5	1.3	1.4	17.7
	1.50	9	2.4	2.6	20.2
	1.60	9	2.4	2.6	22.8
	1.70	7	1.9	2.0	24.8
	1.80	6	1.6	1.7	26.5
	1.90	6	1.6	1.7	28.2
	2.00	5	1.3	1.4	29.6
	2.10	6	1.6	1.7	31.3
	2.20	7	1.9	2.0	33.3
	2.30	7	1.9	2.0	35.3
	2.40	4	1.1	1.1	36.5
	2.50	2	.5	.6	37.0
	2.60	5	1.3	1.4	38.5
	2.70	5	1.3	1.4	39.9
	2.80	4	1.1	1.1	41.0
	2.90	2	.5	.6	41.6
	3.00	6	1.6	1.7	43.3
	3.10	6	1.6	1.7	45.0
	3.20	6	1.6	1.7	46.7
	3.30	4	1.1	1.1	47.9
	3.40	6	1.6	1.7	49.6
	3.50	3	.8	.9	50.4
	3.60	3	.8	.9	51.3
	3.70	3	.8	.9	52.1
	3.80	5	1.3	1.4	53.6
	3.90	1	.3	.3	53.8
	4.00	5	1.3	1.4	55.3
	4.20	3	.8	.9	56.1
	4.30	1	.3	.3	56.4
	4.40	3	.8	.9	57.3
	4.50	2	.5	.6	57.8
	4.60	2	.5	.6	58.4
	4.70	2	.5	.6	59.0
	4.90	1	.3	.3	59.3
	5.00	2	.5	.6	59.8
	5.10	2	.5	.6	60.4
	5.20	1	.3	.3	60.7
	5.30	3	.8	.9	61.5
	5.50	1	.3	.3	61.8
	5.60	2	.5	.6	62.4
	5.70	4	1.1	1.1	63.5
	5.80	1	.3	.3	63.8
	5.90	2	.5	.6	64.4

Table 7. Albumin *cont'd.*

Value	Frequency	Percent	Valid Percent	Cumulative Percent
6.00	1	.3	.3	64.7
6.10	3	.8	.9	65.5
6.30	3	.8	.9	66.4
6.40	2	.5	.6	67.0
6.60	1	.3	.3	67.2
6.70	1	.3	.3	67.5
6.80	1	.3	.3	67.8
7.10	3	.8	.9	68.7
7.20	1	.3	.3	68.9
7.30	1	.3	.3	69.2
7.40	1	.3	.3	69.5
7.50	2	.5	.6	70.1
7.70	2	.5	.6	70.7
7.80	3	.8	.9	71.5
7.90	1	.3	.3	71.8
8.00	1	.3	.3	72.1
8.10	3	.8	.9	72.9
8.40	4	1.1	1.1	74.1
8.50	1	.3	.3	74.4
8.60	1	.3	.3	74.6
8.80	1	.3	.3	74.9
8.90	1	.3	.3	75.2
9.60	1	.3	.3	75.5
9.70	1	.3	.3	75.8
9.80	4	1.1	1.1	76.9
10.00	2	.5	.6	77.5
10.10	1	.3	.3	77.8
10.30	2	.5	.6	78.3
10.60	2	.5	.6	78.9
11.00	2	.5	.6	79.5
11.20	1	.3	.3	79.8
11.80	1	.3	.3	80.1
12.00	1	.3	.3	80.3
12.10	2	.5	.6	80.9
12.20	1	.3	.3	81.2
12.30	2	.5	.6	81.8
12.40	1	.3	.3	82.1
12.70	1	.3	.3	82.3
12.80	1	.3	.3	82.6
13.10	1	.3	.3	82.9
13.20	1	.3	.3	83.2
13.30	1	.3	.3	83.5
13.60	1	.3	.3	83.8
14.10	1	.3	.3	84.0
14.30	1	.3	.3	84.3
14.40	1	.3	.3	84.6
14.60	2	.5	.6	85.2
14.70	1	.3	.3	85.5
15.10	1	.3	.3	85.8
15.30	1	.3	.3	86.0
15.50	1	.3	.3	86.3
15.70	1	.3	.3	86.6
16.00	1	.3	.3	86.9
16.10	1	.3	.3	87.2
16.50	1	.3	.3	87.5

Table 7. Albumin *cont'd.*

	Value	Frequency	Percent	Valid Percent	Cumulative Percent
	16.60	1	.3	.3	87.7
	17.90	1	.3	.3	88.0
	18.00	1	.3	.3	88.3
	18.50	1	.3	.3	88.6
	19.20	1	.3	.3	88.9
	19.90	1	.3	.3	89.2
	20.20	1	.3	.3	89.5
	20.50	1	.3	.3	89.7
	20.70	1	.3	.3	90.0
	20.80	1	.3	.3	90.3
	21.40	1	.3	.3	90.6
	23.80	1	.3	.3	90.9
	24.30	1	.3	.3	91.2
	24.70	1	.3	.3	91.5
	24.80	1	.3	.3	91.7
	26.50	1	.3	.3	92.0
	27.20	1	.3	.3	92.3
	27.30	1	.3	.3	92.6
	28.70	1	.3	.3	92.9
	28.80	1	.3	.3	93.2
	30.60	1	.3	.3	93.4
	30.70	1	.3	.3	93.7
	31.00	2	.5	.6	94.3
	32.80	1	.3	.3	94.6
	34.10	1	.3	.3	94.9
	34.50	1	.3	.3	95.2
	35.40	1	.3	.3	95.4
	36.20	1	.3	.3	95.7
	36.60	1	.3	.3	96.0
	40.10	1	.3	.3	96.3
	41.40	1	.3	.3	96.6
	44.60	1	.3	.3	96.9
	49.00	1	.3	.3	97.2
	51.60	1	.3	.3	97.4
	54.30	1	.3	.3	97.7
	68.60	1	.3	.3	98.0
	71.60	1	.3	.3	98.3
	86.20	1	.3	.3	98.6
	124.40	1	.3	.3	98.9
	127.20	1	.3	.3	99.1
	201.80	1	.3	.3	99.4
	562.50	1	.3	.3	99.7
	830.10	1	.3	.3	100.0
	Total	351	93.4	100.0	
Missing	System	25	6.6		
Total		376	100.0		