SPATIAL ACCESS, NEED AND EQUITY

AN ANALYSIS OF THE ACCESSIBILITY OF PRIMARY HEALTH FACILITIES FOR THE ELDERLY IN PARTS OF EAST KENT

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APPENDIX 1

TABLES

CHAPTER 2

Table 2:1 Numbers of Health Centres in Operation and Being Built during the period 1948 to 1973.

	Number of Centres.	Average No. of General Practitioners per centre.
In operation:		
Opened before July 1948.	1	10.0
Opened July 1948-Dec.1969	122	5.4
Opened 1970	60	6.2
Opened 1971	83	5.2
Opened 1972	94	5.0
Opened 1972	104	5.5
Total	464[1]	5.4
Being built.	148	5.4
Total	612	5.5

[1] Includes 4 centres with no general practitioners.

Data from Hicks 1976, Table 317.

CHAPTER 4

Table 4:1 Persons experiencing health problems in 14 days before interview (from General Household Survey 1977, Table 6.13) (British population sample).

	Males (age in years)					Females (age in years)				
	TOTAL %	16-44 %	45-64 %	65-74 %	75+ %	TOTAL %	16-44 %	45-64 %	65-74 %	75+ %
no health problems	23	27	20	17	13	15	17	15	11	10
short term health problems only	21	28	15	9	7	15	21	10	7	4
chronic health problems only	25	18	30	39	41	27	21	30	36	38
short term and chronic health problems	31	28	35	35	38	43	41	45	46	48

Table 4:2 Average number of G.P. (NHS) Consultations/Person/Year by sex and age (England and Wales).

(from General Household Survey 1977, Table 6.38)

Age in years	Males	Females
0-4	5.8	5.5
5-14	2.7	3.0
15-44	2.4	4.3
45-64	3.6	3.9
65-74	3.8	4.2
75+	6.1	5.1
TOTAL	3.2	4.1

Table 4:3 Numbers consulting and numbers of consultations by age and sex. (from OPCS 1974 Table 6 , Statistics from General Practice).

	Age/sex group	nos. consulting/100		no.of consultations/1000	
		all practices	S.E. Region	all practices	S.E.Region
MALES	all ages	63	60	256	234
	0-	91	91	379	388
	5-	64	62	192	195
	15-	59	56	182	168
	25-	58	53	210	178
	45-	60	57	301	263
	65-	65	64	370	348
	75+	69	67	451	450
FEMALES	all ages	71	69	343	329
	0-	88	89	347	362
	5-	64	63	193	200
	15-	78	74	384	356
	25-	73	69	380	354
	45-	67	65	324	324
	65-	66	64	381	371
	75-	68	66	446	420

Table 4:4 Persons consulting G.P. (NHS) in 14 days before interview by age and site of interview.

(General Household Survey 1977, table 6.39).

Site of interview	Age in years 0-4 %	5-14 %	15-44 %	45-64 %	65-74 %	75+ %	
surgery	78	84	92	89	72	44	percent of persons consulting
at home	17	10	7	11	29	56	
telephone	12	8	5	4	5	3	
surgery	73	80	87	84	64	38	percent of consultations
at home	15	12	8	12	30	59	
telephone	11	8	5	4	5	3	

Table 4:5 Medication for health problems in 14 days before interview by age and sex.

(from General Household Survey, 1977, table 6.18).

	Age in years					
Had health problems	16-44 %	45-64 %	65-74 %	75+ %	TOTAL %	
1) took medication (some or all prescribed)	17	32	45	57	27	MALES
2) took medication (none prescribed)	19	15	10	8	16	
1) took medication (some or all prescribed)	28	44	57	64	40	FEMALES
2) took medication (none prescribed)	21	15	12	9	17	

Table 4:6 Rate per 1,000 attending outpatients in a 3 month reference period in England and Wales.

(from General Household Survey, 1977, table 8.39).

Age in years	no./1,000 attending outpatients		
	TOTAL	MALE	FEMALE
0-4	1.8	1.7	2.0
5-14	1.9	1.8	2.6
15-44	2.4	2.7	2.1
45-64	2.6	2.4	2.7
65-74	2.8	2.4	2.9
75+	3.1	2.5	2.5

Table 4:7 Full driving licence holding by age

(% of population in each age group in 1972/3).

(from Norman 1977 p.29).

Age in years	percentage holding driving licence in 1972/3 men		women	
17-20	35		13	
21-29	72		32	
30-39	79		34	
40-49	74		27	
50-59	68		19	
60-64	60		10	
65-69	43	31	8	4
70-	21		2	

Table 4:8 Percentage of Elderly People in England and Wales who drive and who have a car in their household.

Age in years	% of population in age group who drive a car.	% of population in age group with a car in the household.
65-69	12.9	43.0
70-74	15.9	29.7
75-79	7.0	22.0
80-84	6.6	26.1
85+	1.4	24.8
65+	not available	32.5

from Hunt 1978, page 111.

Table 4:9 Availability of car transport from others outside the household.

	Age in years	% of age group who do not have a car in the household but who are taken out at least once a fortnight in a car.
MEN	65-74	12.1
	75-84	19.5
	85+	20.0
	ALL MEN	14.2
WOMEN	65-74	18.1
	75-84	23.0
	85+	22.7
	ALL WOMEN	19.9
	ALL OVER 65	17.6

from Hunt p.113.

Table 4:10 Availability of car transport for elderly patients in Shoreham-on-Sea and Whitney.

		% of those over 60 for whom a car is available	
		at all times	not at all
MALES	Shoreham	42	36
	Whitney	40	46
FEMALES	Shoreham	15	52
	Whitney	17	56

from Bever Dowie and Kay (1975) and Dyche and Bevan (1975)

Table 4:11 Data from local studies on the mode of transport used by elderly patients attending doctor's surgeries.

Location of study	Patient type	Percent of total number of Patients of the type travelling by			Total number of respondents of the type
		foot	bus	car	
Paddock Wood[1]	aged 60-64	56	13	24	45
	" 65 +	41	9	40	81
Wallsend[2]	aged 65 +	69	18	11	45
Shoreham by Sea	males aged 60-64	29	4	62	45
	" " 65 +	38	19	31	68
	females aged 60-64	43	20	29	56
	" " 65 +	50	30	16	108
Whitney[4]	males aged 60 +	34	13	47	468
	females aged 60 +	39	22	37	592

1 data from Bevan and Baker, 1977, Table 27

2 data from Dawes and Bevan, 1976, Table 38

3 data from Dyche and Bevan, 1976, Table 23

4 data from Bevan et al, 1974, Table 30

Table 4:12 Elderly people driven to the doctor or to hospital.

Group within elderly population	% of group who drive themselves	% of group driven by other members of household.	% of group who are driven by another from outside household.
All over 65 years	12.4	8.8	3.3
men over 65 years	23.4	3.9	2.4
women " " "	5.1	12.1	4.0
All aged 65-69	19.9	9.8	2.5
" " 70-74	12.2	7.6	3.2
" " 75-79	5.3	8.6	4.9
" " 80-84	5.1	9.4	4.1
" " 85+	0.5	8.6	3.3
All living alone	7.3	-	5.2
" " with elderly spouse	17.4	8.6	3.5
" " with younger family	9.4	21.9	1.1

from Hunt(1978)p.115 & 116.

Table 4.13 Mode of travel to the Doctor's Surgery related to distance travelled; results from Hutchinson's study.

DISTANCE TO SURGERY (MILES)	TRAVEL MODE: WALKED No.	% of Distance	% of Mode	BUS No.	% of Distance	% of Mode	CAR No.	% of Distance	% of Mode	TAXI No.	% of Distance	% of Mode	OTHER No.	% of Distance	% of Mode	TOTAL % of No.(grand total)
1	817	67	85	28	2	9	319	26	19	2	0.2	11	46	4	55	1212 (40)
1-2	123	29	13	51	12	17	228	54	13	-	-	-	17	4	20	419 (14)
2-3	15	4	2	68	18	23	284	75	17	5	1	26	9	2	11	381 (13)
3-5	3	0.5	0.3	92	16	31	478	81	29	9	2	47	8	1	10	590 (20)
5	-	-	-	62	15	21	340	83	21	3	1	16	3	1	4	408 (14)
UNKNOWN	2	33	0.2	-	-	-	3	50	0.2	-	-	-	1	16	1	6 (0.2)
TOTAL (% of grand total)	960	(32)		301	(10)		1652	(55)		19	(1)		84	(3)		3016

after Hutchinson (1969)

Table 4:14 Mode of transport to the Doctor's Surgery related to distance travelled; Results from Study by Pinsent and Peacock.

DISTANCE TO SURGERY (MILES)	TRAVEL MODE: WALK No.	% of Distance	% of Mode	BUS No.	% of Distance	% of Mode	CAR (DRIVER) No.	% of Distance	% of Mode	CAR (PASSENGER) No.	% of Distance	% of Mode	OTHER No.	% of Distance	% of Mode	TOTAL No.	% of grand total
1	1337	69.7	87.3	90	4.7	16.5	202	10.5	33.1	180	9.3	36.8	110	5.7	65.8	1919	57.4
1-2	167	22.2	10.9	223	29.6	40.9	190	25.2	31.1	138	18.3	28.2	35	4.6	20.9	753	22.5
2-3	23	6.4	1.5	158	43.6	29.0	100	27.4	16.4	74	20.4	15.1	7	1.9	4.2	362	10.8
3	4	1.3	0.3	74	24.0	13.5	118	38.3	19.3	97	31.5	19.8	15	4.8	9.0	308	9.2
TOTAL (% of grand total)	1531	(45.8)		545	(16.3)		610	(18.3)		489	(14.6)		167	(4.9)		3342	

(after Pinsert and Peacock 1973)

Table 4:15 Elderly People travelling by Bus to the Doctor's Surgery.

Age group (years)	% of group travelling by bus
65-69	19.4
70-74	25.9
75-79	26.7
80-84	19.6
85+	13.4

from Hunt (1978) page 122.

CHAPTER 6

Table 6:1 Location Allocation Analysis of Surgeries in Canterbury and Thanet Health District.

	Criterion Minimized by Location - Allocation			
	Aggregate Distance	Aggregate(Distance)^2	Aggregate(Distance)^3	Variance of Distance
Value of criterion				
a) for the actual surgery distribution (before relocation of facilities)	1191126	254187	566824	150979
b) for the 'optimal' surgery distribution (after facilities had been relocated)	143360	150140	281800	71951
Ratio of criterion value for actual surgery distribution: Value for optimal distribution.	1.33	1.69	2.01	2.10

Table 6:2 Results of Allocation Analysis Without Relocation.

Table 6:2a Analysis of Surgeries in Canterbury and Thanet Health District;

Measures of capacity for provision of care in rural and urban districts.

District	Existing capacity in 1974 (total doctor.hours/week)	% of total	Capacity under optimal partitioning (no. allocated to surgery)	% of total
BROADSTAIRS U.D.	127.5	8.8	22626	7.8
BRIDGE BLEAN R.D.	65.0	4.5	45350	15.6
EASTRY R.D.	109.5	7.5	21006	7.2
CANTERBURY C.B.	198.75	13.7	21436	7.4
FAVERSHAM U.D.	111.91	7.7	5559	1.9
HERNE BAY U.D.	155.83	10.7	47105	16.2
MARGATE U.D.	283.16	19.5	54175	18.6
RAMSGATE U.D.	207.00	14.2	27772	9.6
SANDWICH U.D.	40.5	2.8	2709	0.9
SWALE R.D.	17.5	1.2	11067	3.8
WHITSTABLE U.D.	133.25	9.2	31795	10.9
CANTERBURY & THANET H.D.	1449.82	100.0	290600	100.0

Table 6:2 (continued)

Table 6:2b Analysis of Surgeries in Canterbury and Thanet Health District;

Measures of Capacity for provision of care in Medical Practice Areas.

M.P.A.	% of total Dr.hrs./wk. (existing capacity 1974)	% of total allocated (optimal capacity allocation)	K.F.P.C. Classification of M.P.A.	Classification of M.P.A. on basis of capacity comparison
BROADSTAIRS	8.8	7.8	intermediate	actual above computed optimum
CANTERBURY & ENVIRONS	18.2	23.0	intermediate	" below "
FAVERSHAM & ENVIRONS	8.9	5.7	intermediate	" above "
HERNE BAY	10.7	16.2	intermediate	" below "
MARGATE	19.5	18.2	intermediate	" above "
RAMSGATE	14.2	9.6	open	" above "
SANDWICH	2.8	0.9	restricted	" above "
WHITSTABLE	9.2	10.9	open	" below "
ASH/AYLESHAM/EASTRY	7.5	7.2	intermediate	" slightly above "

Table 6:3 Location-Allocation Analysis of Broadstairs Surgeries for unweighted population.

Table 6:3a Location - Allocation Analysis of Broadstairs Surgeries.

			Criterion minimized			
			aggregate distance	aggregate $(distance)^2$	aggregate $(distance)^3$	sum of squared deviation from mean distance
Value of criterion	a)for actual surgery distribution	i)total for population	96461	617697	4686462	387155
		ii)average value for individual	4.8	30.8	233.9	19.3
	b)for 'optimal' surgery distribution	i)total for population	47808	191480	464320	24300
		ii)average value for individual	2.4	9.6	23.2	1.2

Table 6:3b NORLOC Analysis of fixed 'Optimal' Surgery Distributions.

		Criterion minimized to obtain 'optimal' surgery locations.			
		aggregate distance	aggregate $(distance)^2$	aggregate $(distance)^3$	sum of squared deviation from mean distance
a) Value of aggregate distance criterion computed for fixed'optimal' surgery locations.	i)total for population	47808	55504	52662	53356
	ii)average value for individual	2.4	2.8	2.6	2.7
b) Value of distance variance criterion computed for fixed 'optimal' surgery locations.	i)total for population	113550	58827	24553	24300
	ii)average value for individual	5.7	2.9	1.2	1.2

Table 6:4 Location - Allocation Analysis of Planned Health Centre Site for Broadstairs.

			Criterion minimized: aggregate distance	Criterion minimized: sum of squared deviation from mean distance
Value of criterion	a) for proposed Health Centre location.	i) total for population	201456	731597
		ii) average value for individual	10.1	36.5
	b) for 'optimal' computed location	i) total for population	161680	249870
		ii) average value for individual	8.1	12.5

Table 6:5 Location - Allocation Analysis of Surgeries in Broadstairs with Population Weighting[1].

			Criterion minimized: aggregate distance	Criterion minimized: sum of squared deviation from mean distance
Value of criterion	a) for actual surgery locations	i) total for population	127781	511342
		ii) average value for individual	4.8	19.2
	b) for 'optimal computed locations	i) total for population	64245	31862
		ii) average value for individual	2.4	1.2

[1] number of old age pensioners multiplied by 2, others multiplied by 1.

Table 6:6 Location-Allocation Analysis of Whitstable Health Centre for unweighted population.

Table 6:6a Location - Allocation Analysis of Whitstable Health Centre.

			Criterion minimized			
			aggregate distance	aggregate $(\text{distance})^2$	aggregate $(\text{distance})^3$	sum of squared deviation from mean distance
Value of criterion	a) for actual health centre position	i) for total population	349723	6219176	129523300	2689730
		ii) average value for individual	13.9	247.5	5155.2	107.1
	b) for the 'optimal' computed location	i) for total population	253170	3473000	56506000	886010
		ii) average value for individual	10.1	138.2	2249.0	35.3

Table 6:6b NORLOC Analysis of fixed 'Optimal' Health Centre location.

		Criterion minimized to obtain 'optimal' location.			
		aggregate distance	aggregate $(\text{distance})^2$	aggregate $(\text{distance})^3$	sum of squared deviation from mean distance
a) Value of aggregate distance criterion computed for fixed 'optimal' location.	i) for total population	253170	255920	258950	258950
	ii) average value for individual	10.1	10.2	10.3	10.3
b) Value of distance variance criterion for fixed 'optimal' location.	i) for total population	977870	888250	886010	886010
	ii) average value for individual	38.9	35.4	35.3	35.3

Table 6:7 Location - Allocation Analysis of Previous Surgery Locations in Whitstable.

			Criterion minimized: aggregate distance	Criterion minimized: sum of squared deviation from mean distance
Value of criterion	a) for actual previous surgery locations	i) total for population	140130	547349
		ii) average value for individual	5.6	21.8
	b) for 'optimal' computed surgery locations	i) total for population	108170	183310
		ii) average value for individual	4.3	7.3

Table 6:8 Location - Allocation Analysis of Whitstable Health Centre with Population Weighted[1].

			Criterion minimized: aggregate distance	Criterion minimized: sum of squared deviation from mean distance
Value of criterion	a) for actual Health Centre location	i) total for population	464510	3723000
		ii) average value for individual	14.2	114.1
	b) for computed 'optimal' location	i) total for population	338250	1289000
		ii) average value for individual	10.4	39.5

[1] number of old age pensioners multiplied by 2, others multiplied by 1.

CHAPTER 7

Table 7:1 Age Distribution of Respondents compared with expected distribution on the basis of 1971 Census data and from Hunt's Report.

Age	BROADSTAIRS DAY CENTRE			WHITSTABLE DAY CENTRE		
	Actual no.	Expected no. (census)	Expected no. (Hunt)	Actual no.	Expected no. (census)	Expected no. (Hunt)
60-64	2 } 5	20 } 40	27 } 49	9 } 31	18 } 37	27 } 50
65-69	3 }	20 }	22 }	22 }	19 }	23 }
70-74	26 } 45	16 } 26	13 } 20	20 } 36	16 } 26	14 } 22
75-79	19 }	10 }	7 }	16 }	10 }	8 }
80-84	17 } 24	6 } 10	3 } 4	5 } 8	2 } 6	3 } 4
85+	7 }	4 }	1 }	3 }	4 }	1 }
	74	76*	73*	75	69	75

* discrepancies due to rounding

Table 7:2 Sex structure of sample population compared expected structure on basis of populations from 1971 Census and Hunt's Report.**

	BROADSTAIRS DAY CENTRE						WHITSTABLE DAY CENTRE					
	Actual		Expected (census)		Expected (Hunt)		Actual		Expected (census)		Expected (Hunt)	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
FEMALE	71	93	51	68	46	60	58		51	67	46	60
MALE	5	7	25	32	30	40	18		25	33	30	40

** % figures are percentage of all Valid Cases for the Town.

Table 7:3 Sex structure of Sample compared with that expected on basis of Hunt's Report. (Adjustment for Age Distribution)

	BROADSTAIRS DAY CENTRE		WHITSTABLE DAY CENTRE	
	Actual	Expected	Actual	Expected
FEMALE	71	47	58	46
MALE	5	29	18	31

Table 7:4 Age distribution of respondents compared with that which would be expected given the Sex Structure of the Sample, on basis of Hunt's Report.

	BROADSTAIRS		WHITSTABLE	
	Actual no.	Expected no.	Actual no.	Expected no.
65-69	3	25	22	23
70-74	26	22	20	20
75-79	19	14	16	12
80-84	19	8	5	7
85+	7	4	3	4
	74	74	*66	66

*Some Respondents aged less than 65.

Table 7:5 Number of respondents who live alone compared with expected number, based on data from Hunt's Report. Adjusted for Age and Sex of Sample.**

	LIVING ALONE			
	Actual no.	%	Expected no.	%
Broadstairs	50	66%	31	40%
Whitstable	34	45%	25	33%

** % figures are percentage of all valid cases for the Town.

Table 7:6 Number of respondents who were married compared with number expected on basis of Hunt's Survey, adjusted for respondents age and sex.**

	MARRIED			
	Actual no.	%	Expected no.	%
Broadstairs	12	16%	26	34%
Whitstable	32	43%	36	47%

Table 7:7 Social class distribution of respondents compared with the distribution expected on the basis of Hunt's Survey data.

	Respondents from			
	BROADSTAIRS		WHITSTABLE	
Social class of respondents[1]	Actual no.	Expected no.	Actual no.	Expected no.
I	1	0	2	1
II	21	9	9	9
III non manual	9	8	19	7
III manual	6	6	9	10
IV	8	15	3	16
V	3	1	7	1
TOTAL OF COMPARABLE CASES[2]	38	39	49	44

[1] Registrar General's social class definitions based on occupation before retirement.

[2] The data from Hunt's Survey only permits comparison for respondents who were men, or single women employed before retirement, or women working after the age of 55 who were married, widowed or divorced.

Table 7:8 Residential location of respondents by wards compared with percentage of Old Age Pensioners in wards as indicated by small area statistics.**

TOWN	WARD	Respondents residing in ward no.	%	Percentage of all O.A.P.'s in town residing in ward
BROADSTAIRS	KINGSGATE	11	15	18.5
	CENTRAL	15	21	26.1
	PIERREMONT	28	38	16.8
	UPTON	9	12	20.2
	ST. PETERS	10	14	19.8
WHITSTABLE	SWALECLIFFE	12	16	21.0
	CHESTFIELD	15	20	14.6
	TANKERTON	4	5	17.8
	CENTRAL	9	12	17.5
	SOUTH	17	23	15.3
	SEASALTER	17	23	13.4

** Unless otherwise stated, % figures indicate % of all valid cases for town.

Table 7:9 Number of car drivers in sample compared with number expected from Hunt's Survey data on those with car in household who drive car. (Adjustment for Age, Sex and Type of Region).

	BROADSTAIRS		WHITSTABLE	
Respondents who	Actual no.	Expected no.	Actual no.	Expected no.
Drive	5	6	5	13
Do not drive	71	70	71	63

Table 7:10 Number of respondents for whom a lift was not available compared with number expected to be driven by another person less often than once a fortnight on basis of Hunt's Report, (Adjustment for Age of Respondents.**)

	Actual no. with no lift available		No. expected to be driven by another less than once a fortnight	
	no.	% of total	no.	% of total
BROADSTAIRS	46	60%	36	48%
WHITSTABLE	49	64%	35	46%

** % figures indicate % of total valid cases for the town.

Table 7:11 Number from sample of 25 respondents from each town who reported difficulty in walking, compared with the number expected. Calculated from Hunt's Survey with adjustment for age of respondents.

	BROADSTAIRS		WHITSTABLE		BOTH TOWNS	
	Actual no.	Expected no.	Actual no.	Expected no.	Actual no.	Expected no.
Can't walk fast or far	6	4	6	5	12	9

Table 7:12 Ownership of telephone by survey respondents compared with expected proportion owning telephone. From Hunt's study, with adjustment for type of household.

		Respondents living in			
		Households with elderly need		Households with younger need	
		Actual	Expected	Actual	Expected
BROADSTAIRS (at centre)	No phone	22	42	0	1
	Has phone	49	29	5	4
WHITSTABLE (at centre)	No phone	16	42	0	1
	Has phone	55	29	3	2

Table 7:13 Respondents with no disability compared with expected number on basis of Hunt's Survey. (Adjustment for Age and Sex of Respondents.)

	Respondents with No Disability			
	Actual*		Expected*	
	No.	%	No.	%
BROADSTAIRS (at centre)	12	46	10	38
WHITSTABLE (at centre)	13	50	12	46

Table 7:14 Respondents consulting G.P. in previous year compared with number expected on basis of O.P.C.S. Morbidity Survey. (Adjustment for Age and Sex of Respondents).

	BROADSTAIRS (75 valid cases at centre)				WHITSTABLE (73 valid cases at centre)			
	Actual		Expected		Actual		Expected	
	No.	%	No.	%	No.	%	No.	%
Respondents consulting in last year	60	80	49	66	62	85	47	64

* % of total number for when data is available from Day Centre = 26 individuals from each town.

Table 7:15 Frequency of consultations with G.P. by respondents in previous year, compared with consultation rate expected on basis of Cartwright's Study. (Adjustment for Age and Sex of Respondent).

Frequency of consultations in previous year	BROADSTAIRS (at centre)		WHITSTABLE (at centre)		BOTH TOWNS	
	Actual no.	Expected no.	Actual no.	Expected no.	Actual no.	Expected no.
0	3	8	3	8	6	16
1	4	2	5	2	9	4
2-4	13	4	8	5	21	19
5-9	6	4	4	5	10	14
10+	0	6	6	6	6	12
	26		26		52	

Table 7:16 Average number of consultations per person per year compared with the number expected on the basis of G.H.S. results for 1978.

BROADSTAIRS		WHITSTABLE	
Actual average number of consultations	Expected number	Actual average number of consultations	Expected number
6.9	4.8	5.4	4.5

Average number of consultations is estimated on the basis of the number of consultations reported in the two weeks prior to the interview.

CHAPTER 9

Table 9:1 Association between car driving and socio-demographic factors.

Analysis 1 Dependent variable: probability that respondent drives a car.

Independent variable: interaction of sex and household composition.

9:1a) ANALYSIS OF VARIANCE

Source of variation	sum of squares	D.F.	mean square	F.	significance of F.
Main effects	1.407	9	.156	2.779	0.005
Interaction	1.407	9	.156	2.779	0.005
Explained	1.407	9	.156	2.779	0.005
Residual	7.931	141	.056		
Total	9.338	150	.062		

All respondents from Day Centres were analysed.

152 cases were processed one case was missing.

9:1 b) MULTIPLE CLASSIFICATION ANALYSIS

Variable+ category	N	unadjusted DEVN	ETA	adjusted for independents DEVN	BETA
INTERACTION					
Male respondent lives alone	4	.18		.18	
Male respondent lives with spouse	15	.27		.27	
Male respondent lives with other elderly	1	-.07		-.07	
Male respondent lives with younger family	1	-.07		-.07	
Male respondent lives in institution	1	-.07		-.07	
Female respondent lives alone	79	-.03		-.03	
Female respondent lives with spouse	26	-.03		-.03	
Female respondent lives with other elderly	16	-.07		-.07	
Female respondent lives with younger family	7	-.07		-.07	
Female respondent lives in institution	1	-.07		-.07	
			.39		.39
Multiple R squared					.151
Multiple R					.388

Grand mean = 0.07

Table 9:2 Association between lifts by car and socio-demographic factors.

Analysis 2 Dependent variable : Probability that respondent who does not drive has a lift available by car when needed.
Independent variables : Sex, age, household composition, marital status, social status.

9:2a) ANALYSIS OF VARIANCE

	Source of variation	sum of squares	D.F.	mean square	F.	significance of F.
	Main effects	5.456	14	.390	1.523	.120
a.	sex	.038	1	.038	.150	.700
b.	age	.259	2	.129	.506	.605
c.	Household composition	3.347	4	.837	3.270	.015
d.	Marital Status	.481	3	.160	.626	.600
e.	Social Status	1.002	4	.251	.979	.423
	2 - way interactions	7.069	38	.186	.727	.863
	a b	.274	2	.137	.536	.587
	a c	.091	3	.036	.119	.949
	a e	.241	3	.080	.313	.816
	b c	.727	6	.121	.474	.826
	b d	.024	2	.012	.046	.955
	b e	.690	8	.086	.337	.949
	c d	.138	2	.069	.270	.764
	c e	1.456	8	.182	.711	.681
	d e	.885	4	.221	.864	.489
	Explained	12.526	52	.241	.941	.588
	Residual	22.007	86	.256		
	Total	34.532	138	.256		

All respondents from Day Centres were analysed.
152 cases were processed - 13 cases were missing.

Table 9:2 (continued)

9:2b) MULTIPLE CLASSIFICATION ANALYSIS

Variable and category	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
SEX					
Male	19	-.04		-.05	
Female	120	.01		.01	
			.03		.04
AGE					
Less than 70 years	35	-.06		-.02	
70-79 years	75	-.02		-.03	
80+ years	29	.13		.09	
			.13		.10
HOUSEHOLD COMPOSITION					
Lives alone	75	-.07		-.11	
Lives with spouse	39	-.08		-.01	
Lives with other elderly	17	.36		.37	
Lives with younger family	7	.25		.24	
Lives in institution	1	.54		.54	
			.32		.34
MARITAL STATUS					
Single	24	.16		.11	
Married	43	-.07		-.02	
Widowed	70	-.02		-.02	
Divorced/separated	2	.04		-.32	
			.16		.12
SOCIAL CLASS					
I	7	-.32		-.28	
II	41	.05		.09	
III	62	.02		-.01	
IV	15	-.06		-.10	
V	14	-.03		.03	
			.16		.18
Multiple R squared					.158
Multiple R					.398

Grand mean = .46

Table 9:3 Association between walking ability and health condition.

ANALYSIS 3 Dependent variable : whether respondent has walking difficulty.

Independent variable : whether or not respondent has specific illnesses[1].

9:3a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F.
Main effects	4.541	1	4.541	39.900	.001
Reported illness	4.541	1	4.541	39.900	.001
Explained	4.541	1	4.541	39.900	.001
Residual	5.690	50	.114		
Total	10.231	51	.201		

Respondents from the Day Centre interviewed in 2nd phast were analysed.

52 cases were analysed, none were missing.

9:3b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
ILLNESS					
Respondent does not have specific illnesses	37	-.19		-.19	
Respondent has specific illnesses	15	.46		.46	
			.67		.67
Multiple R squared					.444
Multiple R					.666

Grand mean = .27

[1] Specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

Table 9:4 Association between walking ability and health condition and socio-demographic factors.

ANALYSIS 4 Dependent variable : walking ability.

Independent variables : whether respondent has specific illnesses[1], sex, age.

9:4a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	4.876	4	1.219	10.244	.001
a) illness	4.386	1	4.386	36.861	.001
b) sex	.303	1	.303	2.545	.118
c) age	.060	2	.030	.251	.779
2 - way interactions	.357	5	.071	.599	.701
(a) (b) .	.000	1	.000	.000	.999
(a) (c)	.198	2	.099	.833	.442
(b) (c)	.122	2	.061	.512	.603
Explained	5.233	9	.581	4.886	.001
Residual	4.998	42	.119		
Total	10.231	51	.201		

Respondents from Day Centres interviewed in second phase were analysed.

52 cases were processed - none were missing.

Table 9:4 (continued)

9:4b)

ANALYSIS OF VARIANCE

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
Illness					
Respondent does not have specific illnesses[1]	37	1.19		-.19	
Respondent has specific illnesses[1]	15	.46		.47	
			.67		.67
SEX					
Male	6	.23		.21	
Female	46	-.03		-.03	
			.19		.17
AGE					
Less than 69 years	14	-.05		.05	
70-79 years	23	-.01		-.03	
80+ years	15	.06		.00	
			.10		.08
Multiple R squared					.477
Multiple R					.690

Grand mean = .27

[1]specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

Table 9:5 Association between car travel to surgery and car availability.

ANALYSIS 5 Dependent variable : whether respondent travels to the surgery by car.
Independent variable : car availability.

9: 5a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
main effects	.395	1	.395	4.552	.035
Car availability	.395	1	.395	4.552	.035
Explained	.395	1	.395	4.552	.035
Residual	12.234	141	.087		
Total	12.629	142	.089		

All respondents from Day Centres were analysed.
152 cases were processed - 9 cases were missing.

9: 5b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
CAR AVAILABILITY					
Car not available	69	-.05		-.05	
Car available	74	.05		.05	
			.18		.18
Multiple R squared					.031
Multiple R					.177

Grand mean = .10

Table 9:6 Association between car travel to surgery and car availability and socio-demographic factors.

ANALYSIS 6 Dependent variable : probability that respondent travels to the Doctor's Surgery by car.
Independent variables: Interaction of car availability and sex, interaction of household composition and marital status.

9:6a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION

	Sum of squares	D.F.	mean square	F	Significance of F.
Main effects	2.765	12	.230	2.906	.001
a) interaction of car availability and sex	1.119	3	.373	4.703	.004
b) interaction of household composition and marital status.	1.646	9	.183	2.307	.020
2-way interactions	.296	12	.025	.311	.986
(a) (b)	.296	12	.025	.311	.986
Explained	3.062	24	.128	1.668	.050
Residual	9.596	121	.079		
Total	12.658	145	.087		

All respondents from day centres were analysed.

152 cases were processed - 6 cases were missing.

Table 9:6 (continued)

9:6b) MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
Interaction of car availability and sex					
male, no car available	5	-.10		-.18	
male, car transport available	19	.22		.19	
Female, no car available	63	-.05		-.03	
Female, car available	59	-.01		-.02	
			.30		.26
Interaction of household composition and marital status					
Single, lives alone	18	-.10		-.09	
Single, lives with others over 65	7	-.10		-.11	
Married lives alone	2	-.10		-.07	
Married, lives with spouse	39	-.13		.13	
Married, lives with others over 65	2	-.40		.42	
Widowed, lives alone	60	-.08		-.07	
Widowed, lives with others over 65	6	.07		.09	
Widowed, lives with younger family	8	.15		.12	
Widowed, lives in lodgings/institution	2	-.10		-.18	
Divorced/separated, lives with others over 65	2	-.10		-.07	
			.39		.37
Multiple R squared					.218
Multiple R					.467

Grand mean = 0.10

Table 9:7 Association between bus travel to surgery and distance, car availability, and socio demographic factors.

Dependent variable: probability that respondent travels to surgery by bus.

Independent variables: Distance, car availability, sex, age interaction of household composition and marital status.

9:7a ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	DF	mean square	F	significance of F
Main effects	8.315	14	.594	3.111	.001
a) Distance	4.772	1	4.772	24.996	.001
b) Car availability	.031	1	.031	.161	.689
c) Sex	.046	1	.046	.243	.624
d) Age	.559	2	.279	1.463	.237
e) Interaction	2.906	9	.323	1.691	.104
2-way interactions	4.950	30	.165	.864	.666
a b	.044	1	.044	.228	.634
a c	.050	1	.050	.264	.609
a d	.228	2	.114	.598	.552
a e	1.422	5	.284	1.490	.202
b c	.094	1	.094	.493	.484
b d	.424	2	.212	1.111	.334
b e	.704	5	.141	.738	.597
c d	.325	2	.162	.850	.431
c e	.778	4	.194	1.018	.403
d e	1.675	7	.239	1.253	.284
Explained	13.265	44	.301	1.579	.037
Residual	16.038	84	.191		
Total	29.302	128	.229		

All respondents from Day Centres were analysed.

152 cases were processed - 23 were missing.

Table 9:7 (continued)

9:7b MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE & CATEGORY	N	unadjusted DENN	ETA	adjusted for DENN	BETA
Distance					
less than 1 mile	90	-.13		-.16	
more than 1 mile	39	.29		.36	
			.40		.50
Car Availibility					
not available	58	.01		.02	
available	71	-.01		-.02	
			.03		.04
Sex					
Male	18	-.02		.04	
Female	111	.00		-.01	
			.01		.03
Age					
less than 70	32	-.01		-.10	
70 - 79	69	-.00		.01	
80+	28	.01		.10	
			.01		.15
Interaction					
single, lives alone	17	.12		.17	
single, lives with other elderly	7	.08		.07	
married, lives alone	2	-.35		-.47	
married, lives with spouse	35	-.01		-.12	
married, lives with other elderly	1	-.35		-.18	
widowed, lives alone	52	-.04		.07	
widowed, lives with other elderly	6	-.18		-.03	
widowed, with younger family	6	-.35		-.34	
widowed in institution	2	-.35		-.24	
divorced or separated, live with other elderly	1	.65		.82	
MULTIPLE R SQUARED .284			.28		.33
MULTIPLE R .533					

GRAND MEAN = .35

Table 9:8 Association between walking to surgery and distance.

ANALYSIS 8 Dependent variable : probability that respondent walks to surgery.

Independent variable : distance to surgery.

9:8a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	Sum of squares	D.F.	Mean square	F.	significance of F.
Main effects	7.754	1	7.754	38.879	.001
Distance	7.754	1	7.754	38.879	.001
Explained	7.754	1	7.754	38.879	.001
Residual	28.719	144	.199		
Total	36.473	145	.252		

All respondents from Day Centres were analysed.

152 cases were processed - 6 cases were missing.

9:8b) MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
Distance					
Less than 1 mile	100	.16		.16	
More than 1 mile	46	-.34		-.34	
			.46		.46
Multiple R squared					.213
Multiple R					.461

Grand mean = .51

Table 9:9 Association between walking to surgery and socio-demographic variables.

ANALYSIS 9 Dependent variable : probability that respondent walks to surgery.

Independent variables : sex, age, household composition, marital status.

9:9a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F.	significance of F.
Main effects	2.785	10	.279	1.132	.344
a) sex	.684	1	.684	2.782	.098
b) age	.277	2	.138	.563	.571
c) household composition	.745	4	.186	.757	.555
d) marital status	.828	3	.276	1.122	.343
2 - way interactions	4.425	16	.277	1.124	.340
a b	.538	2	.269	1.093	.338
a c	.588	4	.147	.597	.665
b c	1.467	6	.245	.994	.432
b d	.431	2	.216	.877	.419
c d	.272	2	.136	.554	.579
Explained	7.211	26	.277	1.128	.322
Residual	29.762	121	.246		
Total	36.973	147	.252		

All respondents from Day Centres were analysed.

152 cases were processed - 4 cases were missing.

9:9b) MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
SEX					
Male	21	-.18		-.19	
Female	127	.03		.03	
			.15		.15
AGE					
Less than 70 years	36	-.07		-.06	
70-79 years	80	.04		.04	
80+ years	32	-.01		-.04	
			.09		.09
HOUSEHOLD COMPOSITION					
Lives alone	81	.04		.04	
Lives with spouse	40	-.11		-.16	
Lives with other elderly	17	.02		.08	
Lives with younger family	8	-.01		.02	
Lives in institution	2	.49		.58	
			.18		.23
MARITAL STATUS					
Single	25	.01		-.06	
Married	44	-.08		.10	
Widowed	77	.06		-.02	
Divorced/separated	2	-.51		-.67	
			.17		.20
Multiple R squared					.075
Multiple R					.274

Grand mean = .51

Table 9:10 Association between fare costs and distance to surgery.

ANALYSIS 10 Dependent variable: cost of fares to Doctor's surgery.
Independent variable: distance to surgery.

9:10a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	Sum of squares	DF	Mean square	F	significance of F.
Main effects	5998.155	1	5998.155	26.546	.001
Distance	5998.155	1	5998.155	26.546	.001
Explained	5998.155	1	5998.155	26.546	.001
Residual	10167.760	45	225.950		
Total	16165.915	46	351.433		

Respondents from the Day Centres who travelled by bus to the surgery were analysed.
50 cases were processed - 3 cases were missing.

9:10b) MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
Distance					
Less than 1 mile	22	-12.04		-12.04	
More than 1 mile	25	10.60		10.60	
			.61		.61
Multiple R squared					.371
Multiple R					.609

Grand mean = 27.04

Table 9:11 Association between fare costs and distance, car availability and age.

ANALYSIS 11 Dependent variable : cost of fares to Doctor's surgery.
Independent variables : distance to surgery, availability of lift, whether respondent drives, respondent's age.

9:11a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	8006.596	5	1601.319	10.211	.001
a) distance	6023.508	1	6023.508	38.408	.001
b) availability of lift	816.049	1	816.049	5.203	.029
c) whether respondent drives	383.890	2	383.890	2.448	.127
d) Respondent's age	783.150	2	391.575	2.497	.097
2 - way interactions	2801.159	6	466.860	2.977	.019
a b	656.818	1	656.818	4.188	.049
a d	864.588	2	432.294	2.756	.078
b d	563.576	2	281.788	1.797	.181
c d	647.337	1	647.337	4.128	.050
Explained	10807.755	11	982.523	6.265	.001
Residual	5332.179	34	156.829		
Total	16139.935	45	358.665		

Respondents from Day Centres who travel to surgery by bus were analysed.
50 cases were processed - 4 cases were missing.

Table 9:11 (continued)

9:11b) MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
DISTANCE					
Less than 1 mile	21	-12.49		-12.95	
More than 1 mile	25	10.49		10.88	
			.61		.63
AVAILABILITY OF LIFT					
Lift not available	26	3.58		3.31	
Lift available	20	- 4.65		- 4.30	
			.22		.20
WHETHER RESPONDENT DRIVES					
Respondent does not drive	44	.33		.84	
Respondent drives	2	- 7.15		-18.51	
			.08		.21
AGE					
Less than 70 years	9	5.74		4.18	
70-79 years	26	- 3.54		- 3.72	
80+ years	11	3.67		5.38	
			.22		.23
Multiple R squared					.496
Multiple R					.704

Grand mean = 27.15

Table 9:12 Association between fare costs and distance and travel concessions

ANALYSIS 12 Dependent variable : cost of fares to surgery.
Independent variables : distance, whether respondent holds concessionary bus pass.

9:12a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F.
Main effects	726.567	2	363.284	3.098	.079
a) distance	638.444	1	638.444	5.444	.036
b) whether holds pass	88.123	1	88.123	.751	.402
2 - way interactions	76.900	1	76.900	.656	.433
(a) (b)	76.900	1	76.900	.656	.433
Explained	803.467	3	267.822	2.284	.127
Residual	1524.533	13	117.272		
Total	2328.000	16	145.500		

Respondents from the Day Centre interviewed in 2nd phase who travelled by bus to surgery were analysed.
18 cases were analysed - 1 case was missing.

9:12b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
DISTANCE					
Less than 1 mile	8	-6.50		-5.71	
More than 1 mile	9	5.78		5.08	
			.52		.46
BUS PASS HOLDING					
No concessionary pass held	7	4.86		2.86	
Holds bus pass	10	-3.40		-2.00	
			.35		.20
Multiple R squared					.312
Multiple R					.559

Grand mean = 26.00

Table 9:13 Association between travel time and distance to surgery.

ANALYSIS 13 Dependent variable : travel time to Doctor's surgery.
Independent variable : distance to surgery.

9:13a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F.
Main effects	2.140	1	2.140	0.619	.002
Distance	2.140	1	2.140	9.619	.002
Explained	2.140	1	2.140	9.619	.002
Residual	29.593	133	.223		
Total	31.733	134	.237		

All respondents from Day Centres were analysed.
152 cases were processed - 17 cases were missing.

9:13b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
DISTANCE					
Less than 1 mile	97	-.08		-.08	
More than 1 mile	38	.20		.20	
			.26		.26
Multiple R squared					.067
Multiple R					.260

Grand mean = .38

Table 9:14 Association between travel time and distance and travel mode to surgery.

ANALYSIS 14 Dependent variable : travel time to surgery.

Independent variable : distance to surgery, mode of transport to surgery.

9:14a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	4.745	3	1.582	7.771	.001
a) distance	2.394	1	2.394	11.763	.001
b) transport mode	2.351	2	1.176	5.775	.004
2 - way interactions	.668	2	.334	1.640	.198
(a) (b)	.668	2	.334	1.640	.198
Explained	5.413	5	1.083	5.319	.001
Residual	25.647	126	.204		
Total	31.061	131	.237		

All respondents from the Day Centres were interviewed.

152 cases were processed - 20 were missing.

Table 9:14 (continued)

9:14b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
DISTANCE					
Less than 1 mile	95	-.08		-.09	
More than 1 mile	37	.22		.23	
			.28		.30
TRANSPORT MODE					
Walk	73	-.02		.04	
Bus	47	.13		.05	
Car	12	-.38		-.42	
			.29		.28

Multiple R squared .153

Multiple R .391

Grand mean = .38

Table 9:15 Association between travel time and car availability and socio-demographic factors.

ANALYSIS 15 Dependent variable : travel time to surgery.
Independent variables : interaction of car availability and sex, age, household composition and marital status.

9:15a

ANALYSIS OF VARIANCE

SOURCE OF VARIANCE	sum of squares	D.F.	mean square	F	Significance of F
Main effects	3.851	12	.321	1.363	.194
a) interaction	2.696	3	.899	3.831	.012
b) age	.639	2	.320	1.362	.261
c) household composition	.362	4	.090	.386	.818
d) marital status	.155	3	.052	.220	.883
2 way interactions	4.202	24	.175	.746	.791
(a) (b)	.658	4	.164	.701	.593
(a) (c)	1.065	8	.133	.568	.802
(a) (d)	1.024	3	.341	1.455	.232
(b) (c)	.638	6	.106	.453	.841
(b) (d)	.354	2	.177	.755	.473
(c) (d)	.075	1	.075	.320	.573
Explained	8.053	36	.224	.954	.551
Residual	22.753	97	.235		
Total	30.806	133	.232		

All respondents from the day centres were analysed
152 cases were processed - 18 were missing

Table 9:15 (continued)

9:15b MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY					
interaction	N	Unadjusted		Adjusted for independents	
		DEVN	ETA	DEVN	BETA
male, no car available	5	.64		.61	
male, car transport available	16	-.17		-.16	
Female no car available	56	.03		.01	
female, car available	57	-.04		-.02	
			.30		.27
Age					
less than 70 years	32	.08		.08	
70 - 79 years	75	.02		-.00	
80 + years	27	-.14		-.08	
			.15		.11
household composition					
lives alone	71	.01		.03	
lives with spouse	37	.10		.01	
lives with others over 65	16	-.11		-.08	
lives with younger family	8	-.23		-.14	
lives in lodgings/ institution	2	-.36		-.22	
			.20		.12
marital status					
single	22	-.09		-.06	
married	40	.09		.03	
widowed	70	-.03		-.01	
divorced/separated	2	.14		.23	
			.14		.08
Multiple R squared					.125
Multiple R					.354

Grand mean = 0.36

Table 9:16 Association between perceived access and car availability.

ANALYSIS 16 Dependent variable : perceived accessibility of the Doctor's surgery.
Independent variable : car availability.

9:16a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	.087	1	.087	.511	.476
Car availability	.087	1	.087	.511	.476
Explained	.087	1	.087	.511	.476
Residual	23.530	139	.169		
Total	23.617	140	.169		

All respondents interviewed at the Day Centres were analysed.
152 cases were processed - 4 cases were missing.

9:16b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
CAR AVAILABILITY					
Car not available	67	.03		.03	
Car available	74	-.02		-.02	
			.06		.06
Multiple R squared					.004
Multiple R					.061

Grand mean = .21

Table 9:17 Association between perceived access and socio-demographic factors.

ANALYSIS 17 Dependent variable : perceived accessibility of the Doctor's surgery.

Independent variable : sex, household composition, interaction of age and marital status.

9:17a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	1.584	14	.113	.663	.805
a) sex	.332	1	.332	1.946	.166
b) household composition	.286	4	.071	.419	.795
c) interaction of age and marital status	.920	9	.102	.599	.796
2 - way interactions	2.830	13	.218	1.276	.237
(a) (b)	.219	4	.055	.321	.867
(a) (c)	.414	2	.207	1.251	.300
(b) (c)	2.021	7	.289	1.693	.117
Explained	4.414	27	.163	.958	.531
Residual	19.958	117	.171		
Total	24.372	144	.169		

All respondents interviewed at the Day Centres were analysed.

152 cases were processed - 7 cases were missing.

Table 9:17 (continued)

9:17b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
SEX					
Male	20	-.11		-.14	
Female	125	.02		.02	
			.11		.13
HOUSEHOLD COMPOSITION					
Lives alone	80	.01		-.04	
Lives with spouse	38	.02		.16	
Lives with other elderly	17	-.10		-.11	
Lives with younger family	8	.04		-.05	
Lives in institution	2	-.21		-.22	
			.11		.24
INTERACTION					
Single, aged less than 70	6	-.05		-.02	
Single, aged 70-79 years	11	.15		.20	
Single, aged 80+ years	8	-.09		-.04	
Married, less than 70	17	.08		-.07	
Married, 70-79 years	22	-.08		-.16	
Married, 80+	3	.12		.04	
Widowed, less than 70	12	.04		.06	
widowed, 70 - 79	44	-.05		-.00	
widowed 80+	20	.09		.13	
Divorced/separated 70-79	2	-.21		-.13	
			.20		.25
Multiple R squared					.065
Multiple R					.255

Grand mean = .21

Table 9:18 Association between perception of access and health condition.

ANALYSIS 18 Dependent variable : perception of difficulty of access to Doctor's surgery.

Independent variable : whether respondent has specific illnesses.

9:18a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	1.692	1	1.692	10.501	.002
Illness	1.692	1	1.692	10.501	.002
Explained	1.692	1	1.692	10.501	.002
Residual	8.058	50	.161		
Total	9.750	51	.161		

Respondents from the Day Centres interviewed in phase 2 were analysed.

52 cases were processed - none were missing.

9:18b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DEVN	unadjusted ETA	adjusted for independents DEVN	adjusted for independents BETA
Illness					
Does not have specific[1] illnesses	37	-.11		-.11	
Has specific illnesses[1]	15	.28		.28	
			.42		.42
Multiple R squared					.174
Multiple R					.417

Grand mean = .25

[1] specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

Table 9:19 Association between perception of access and health status and time since last consultation.

ANALYSIS 19 Dependent variable : perception of difficult access to Doctor's surgery.

Independent variables : whether respondent has any illness or disability, whether respondent has specific illnesses[1], time since last consultation with doctor.

9:19a)

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	2.284	6	.381	2.467	.041
a) respondent has any illness or disability	.299	1	.299	1.935	.172
b) respondent has specific illnesses[1]	1.770	1	1.770	11.471	.002
c) time since last consultation	.267	4	.067	.433	.784
2 - way interactions	1.602	7	.229	1.483	.203
(a) (c)	.207	4	.059	.335	.853
(b) (c)	.435	3	.145	.940	.431
Explained	3.886	13	.299	1.937	.057
Residual	5.864	38	.154		
Total	9.750	51	.191		

Respondents interviewed in the Day Centres in phase 2 were analysed.

52 cases were processed - none were missing.

[1]specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

Table 9:19 (continued)

9:19b)

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
Any illness or disability					
Respondent has none	25	-.05		.10	
Respondent has some illness or disability	27	.05		-.09	
			.11		.23
Specific illnesses[1]					
Respondent does not have specific illnesses	37	-.11		-.15	
Respondent has specific illnesses	15	.28		.37	
			.42		.54
Time since last consultation					
up to 1 week	11	.02		.01	
1-4 weeks	8	.13		.08	
1-6 months	23	.01		.01	
6-12 months	4	-.25		-.23	
more than 1 year	6	-.08		-.00	
			.21		.17
Multiple R squared					.234
Multiple R					.484

Grand mean = .25

[1] specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

Table 9:20 Association between perception of access and health status and frequency of consultation.

ANALYSIS 20 dependent variable : perception of difficult access to doctor's surgery.

independent variables : whether respondent has any illness or disability, whether respondent has specific illnesses[1], frequency of consultations in previous 12 months.

9: 20a

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
Main effects	1.131	4	.283	1.493	.230
a) respondent has any illness or disability	.028	1	.028	.147	.704
b) respondent has specific illnesses	.694	1	.694	3.668	.065
c) frequency of consultations	.408	2	.204	1.079	.353
2 - way interactions	.129	2	.064	.340	.714
(a) (c)	.129	2	.064	.340	.714
Explained		6	.210	1.109	.381
Residual		29	.189		
Total	6.750	35	.193		

Respondents interviewed in the Day Centres in phase 2 were analysed

52 cases were processed - 16 were missing

Table 9:20 (continued)

9:20b MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY .	N	unadjusted		adjusted for independents	
		DEVN	ETA	DEVN	BETA
Any illness or disability					
respondent has none	18	-.03		.17	
respondent has some illness or disability	18	.03		-.17	
			.06		.40
Specific illnesses					
respondent does not have specific illnesses	24	-.08		-.15	
respondent has specific illnesses	12	.17		.29	
			.27		.48
Frequency of consultations					
none	6	-.08		-.05	
once	9	-.14		-.19	
5-10 consultations	21	.08		.10	
					.28
Multiple R squared					.168
Multiple R					.409

Grand mean = .25

Table 9:21 Association between perceived access and journey cost variables.

ANALYSIS 21 dependent variable : perception of access difficulty to surgery
independent variables : interaction of fare costs; travel time and travel distance to surgery.

9:21a

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	Significance of F
Main effects	5.603	6	.934	7.313	.001
interaction	5.603	6	.934	7.313	.001
Explained	5.603	6	.934	7.313	.001
Residual	15.832	124	.128		
Total	21.455	130	.165		

All respondents at the Day Centres were analysed
152 cases were processed - 20 were missing.

9:21b MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted DENN	unadjusted ETA	adjusted for independents DENN	adjusted for independents BETA
interaction					
no fare, short time & distance	53	-.15		-.15	
fare up to 20p, short time & distance	10	-.11		-.11	
fare 20-40p, short time & distance	4	.29		.29	
no fare, long time or distance	29	-.03		-.03	
fare paid, long time or distance	16	.04		.04	
no fare, long time & distance	7	.22		.22	
fare paid, long time & distance	12	.54		.54	
			.51		.51
Multiple R squared					.261
Multiple R					.511

Grand mean = 0.21

Table 9:22 Association between perception of access and walking ability.

ANALYSIS 22 dependent variable : perception of difficulty to the Doctor's surgery.

independent variable : walking ability.

9:22a

ANALYSIS OF VARIANCE

SOURCE OF VARIATION	sum of squares	D.F.	mean square	F	significance of F
main effects	.611	1	.611	3.342	.073
walking ability	.611	1	.611	3.342	.073
Explained	.611	1	.611	3.342	.073
Residual	9.139	50	.183		
Total	9.750	51	.191		

All respondents from Day Centres interviewed in Phase 2 were analysed.

52 cases were processed - none were missing.

9:22b

MULTIPLE CLASSIFICATION ANALYSIS

VARIABLE AND CATEGORY	N	unadjusted		adjusted for independents	
		DENN	ETA	DENN	BETA
walking ability					
no walking ability	38	-.07		-.07	
has walking difficulty	14	.18		.18	
			.25		.25
multiple R squared					.063
multiple R					.250

grand mean = .25

Table 9:23 Results from Discriminant Analysis

Discrimination between respondent with, or without access difficulty on the basis of the following data:

9.23a Discrimination by journey costs.
Distance, time and payment of fares to surgery. (All respondents from the day centre were analysed : 68% were correctly classified)

9:23b Discrimination by incidence of illnesses.
Incidence of arthritis, rheumatism, circulatory conditions, affects of strokes or paralysis. (Respondents from the day centres in the second phase of the survey were analysed: 77%were correctly classified)

9:23c Discrimination by journey costs and ability to walk.
Distance, time, payment of fares to surgery, walking ability. (Respondents from the day centres in the second phase of the survey were analysed: 85% were correctly classified.

TABLE	GROUP	GROUP MEMBERSHIP PREDICTED FROM DATA ON INDEPENDENT VARIABLES	
		GROUP 1	GROUP 2
9.23a	1 No access difficulty	65 (65%)	35 (35%)
	2 Perceived access difficulty	5 (19%)	21 (81%)
9:23b	1 No access difficulty	30 (83%)	6 (17%)
	2 Perceived access difficulty	5 (45%)	6 (55%)
9:23c	1 No access difficulty	31 (86%)	5 (14%)
	2 Perceived access difficulty	2 (8%)	9 (82%)

Table 9.24 Number of Respondents reporting that they use their nearest Post Office.

	BROADSTAIRS	WHITSTABLE
Respondents using nearest Post Office	66	62
Not using nearest Post Office	10	11

Table 9:25 Location of facilities used for weekly shopping by respondents.

BROADSTAIRS				WHITSTABLE		
High St.	Town Centre	43		WHITSTABLE	57	63 using centres in Whitstable
York St.		3		TANKERTON	2	
Broadway		11		SWALECLIFFE	3	
St. Peters	St.Peters	7	67 using centres in Broadstairs	WHITSTABLE/ TANKERTON	1	
Reading St.	Reading St.	1				
Prince Charles Rd.		1		HERNE BAY/ WHITSTABLE	6	8 using centres outside Whitstable
Westwood	outside Broadstairs	3		HERNE BAY	2	
Dumpton		1				
Does not use shopping facility		7		Not used	3	
				Not used	3	

Table 9:26 Use of chemist facilities.

Table 9:26a Number of Respondents using nearest chemist.

NEAREST CHEMIST	BROADSTAIRS	WHITSTABLE
USED	62	65
NOT USED	11	6

Table 9: 26b Number of Respondents using a chemist in the same location used for shopping facilities or Post Office.

	BROADSTAIRS	WHITSTABLE
Same location for chemist	36	48
Chemist location NOT close to other facilities	49	24

Table 9: 26c Cross-tabulation to show that respondents using a chemist in the same location as their Post Office or shops are less likely to make a special trip to the chemist.

	Special trip to Chemist	No special trip	
Chemist in same location as shops or Post Office	111 (85%)	19 (15%)	130 (100%)
Chemist location not close to other facilities	25 (68%)	12 (32%)	37 (100%)

significance of chi squared statistic = .026

Table 9: 26d Perception of access to chemist cross-tabulated by whether a special trip is made to use the chemist.

	Access to Chemist	
	Easy	Difficult
No special trip to use Chemist	56 (93%)	4 (7%)
Special trip made to use Chemist	8 (40%)	12 (60%)

significance of chi squared statistic = .000

Table 9: 27 Cross-tabulation of reason for choosing Doctor by whether Doctor's Surgery is the nearest. (Broadstairs Respondents only).

	Reason for choosing Doctor			
	Selection not made by respondent; allocated by F.P.C./G.P. took over Practice of previous Doctor	Respondent selected Doctor		
		Doctor recommended considered good G.P.	Surgery nearest	Chose under different circumstances
G.P.'s Surgery is nearest to respondent's home	12	11	8	1
			20	
Surgery is not nearest	5	5	0	3
			8	

Table 9:28 Summary Statistics on travel time to local facilities.

	Respondents Interviewed in			
	BROADSTAIRS		WHITSTABLE	
FACILITY	Average travel time to facility	% who travel more than 15 mins.	Average travel time to facility	% who travel more than 15 mins.
Shops	10.4	15	11.5	23
Post Office	9.9	18	10.1	20
Chemist	9.8	18	13.8	39
Chiropodist	11.1	28	15.8	37
Outpatient Clinic	19.3	59	24.4	74
Casualty Unit	17.5	50	18.2	54
G.P.'s Surgery (1st 100 respondents)	11.1	30	16.5	43
G.P.'s Surgery (respondents from Day Centre)	10.7	27	16.7	48
G.P.'s Surgery (respondents at home)	16.6	39	18.9	67

Table 9:29 Mode of travel to the Doctor's surgery by time taken to travel there.

	Travel time in minutes						Average time (minutes)
Travel mode	0-5	6-10	11-15	16-20	25-30	30-60	
BROADSTAIRS							
Walk	18	14	9	10	2	1	10.3
Bus	1	10	3	7	4	1	15.1
Car	2	2	1	0	0	0	2.6
WHITSTABLE							
Walk	4	2	5	8	6	5	20.4
Bus	1	14	3	8	14	3	18.2
Car	4	5	1	0	1	0	8.2
BOTH TOWNS							
Walk							14.0
Bus							17.0
Car							7.0

Table 9:30 Respondent's reports of whether or not they make a special journey to medical facilities.

Type of facility	Respondents who travel to the facility who	Respondents from BROADSTAIRS No.	BROADSTAIRS % of total	WHITSTABLE No.	WHITSTABLE % of total
Chemist	Make special trip	17	18	10	11
	Make no special trip	75	80	80	84
	Depends	2	2	5	5
	TOTAL	94		95	
Chiropodist	Make special trip	14	26	6	10
	Make special trip because they have an appointment	12	23	21	32
		26	49	27	42
	Make no special trip	27	51	38	58
	TOTAL	53		65	
Doctor's Surgery	Make special trip	34	41	47	53
	Make special trip because they have an appointment	32	39	29	27
		66	80	76	85
	Make no special trip	16	19	11	12
	Depends	1	1	2	2
	TOTAL	83		89	

Table 9:31 Cross-tabulation of respondent's perception of accessibility of G P.'s Surgery by whether or not respondent makes a special trip to the Surgery.

	Access perceived to be easy	Access perceived to be difficult
No special trip made to Surgery	13	2
Special trip to Surgery	20	14

Table 9:32 Cross-tabulation of whether voluntary minibus service is used by whether access to the Doctor's Surgery is difficult. (Whitstable respondents only).

Access to G.P.'s Surgery	Voluntary minibus not used	used
easy	43 (77%)	9 (56%)
difficult	13 (23%)	7 (44%)
	56 (100%)	16 (100%)

significance of chi-squared statistic = 0.1933

Table 9:33 Use of Chiropody Facilities.

Table 9:33a Cross-tabulation of ease of access to Chiropodist by town in which respondent was interviewed.
(For respondents who know location of Chiropodist only).

Town	Access to Chiropodist perceived to be easy	difficult
BROADSTAIRS	18	2
WHITSTABLE	13	7

Table 9:33b Cross-tabulation of respondent's perception of accessibility of Chiropodist by whether respondent makes a special visit to Chiropodist.

Access to Chiropodist perceived as	No special trip to Chiropodist	Special trip made to Chiropodist
easy	10 (91%)	19 (70%)
difficult	1 (9%)	8 (30%)
	11 (100%)	27 (100%)

significance of chi-squared statistic = 0.35

Table 9:34 Use of Hospital facilities.

Table 9:34a Cross-tabulation of respondent's knowledge of location of casualty unit by whether or not the facility is used.

Respondent	Casualty unit is not used	used	total
Knows location of casualty unit	81 (63%)	47 (37%)	128 (100%)
Does not know location	17 (90%)	2 (10%)	19 (13%)

significance of chi-squared statistic = 0.046

Table 9:34b Cross-tabulation of respondent's knowledge of outpatient clinic location by whether the facility is used.

Respondent	Outpatient clinic is not used	used	total
Knows location of outpatient clinic	32 (40%)	49 (60%)	81 (100%)
Does not know location	30 (53%)	27 (47%)	57 (100%)

significance of chi-squared statistic = 0.176

Table 9:34c Numbers of respondents reporting difficult access to outpatient and casualty unit in Broadstairs and Whitstable.

	BROADSTAIRS	WHITSTABLE
Access to outpatient clinic perceived as		
easy	16	8
difficult	9	18
Access to casualty unit perceived as		
easy	16	13
difficult	7	11

Table 9: 35 Perceived difficulty of access to health care facilities and health condition of respondents.

RESPONDENTS WHO	RESPONDENTS WHO DID NOT REPORT SPECIFIC ILLNESSES	RESPONDENTS WHO REPORT THAT THEY SUFFER FROM SPECIFIC ILLNESSES ASSOCIATED WITH WALKING DIFFICULTIES[1]	TOTAL
Have no difficulty of access to health care	12	2	14
Have access difficulty to one or more health care facilities	17	8	25
Total	29	10	39

Significance of chi squared statistic = .3

[1]Specific illnesses associated with walking difficulty are arthritis, rheumatism, circulatory conditions, effects of strokes or paralysis.

APPENDIX 2

FIGURES

CHAPTER 1

A basic classification of services

Type	Distribution system	Examples of services
1	From many origins to few destinations; single or multiple-purpose journey	1 Hospitals 2 Schools 3 Libraries 4 Clinics 5 Welfare offices 6 Voting areas
2	From few origins to many destinations; single-purpose journey	1 Fire stations 2 Police stations
3	From few origins to many destinations; servicing several destinations on a single journey	1 Garbage collection 2 Mail delivery and collection 3 Police surveillance 4 Snow removal
4	Few central points which serve areas, linkages may be by physical transmission of goods or services, or by information networks including mail, telephone, radio or television	1 Taxation units 2 Jurisdictional area 3 Pollution control 4 Planning districts

FIGURE 1a

A Classification of Service Systems by Massam

(from Massam, 1975, Table 1:1)

CHAPTER 2

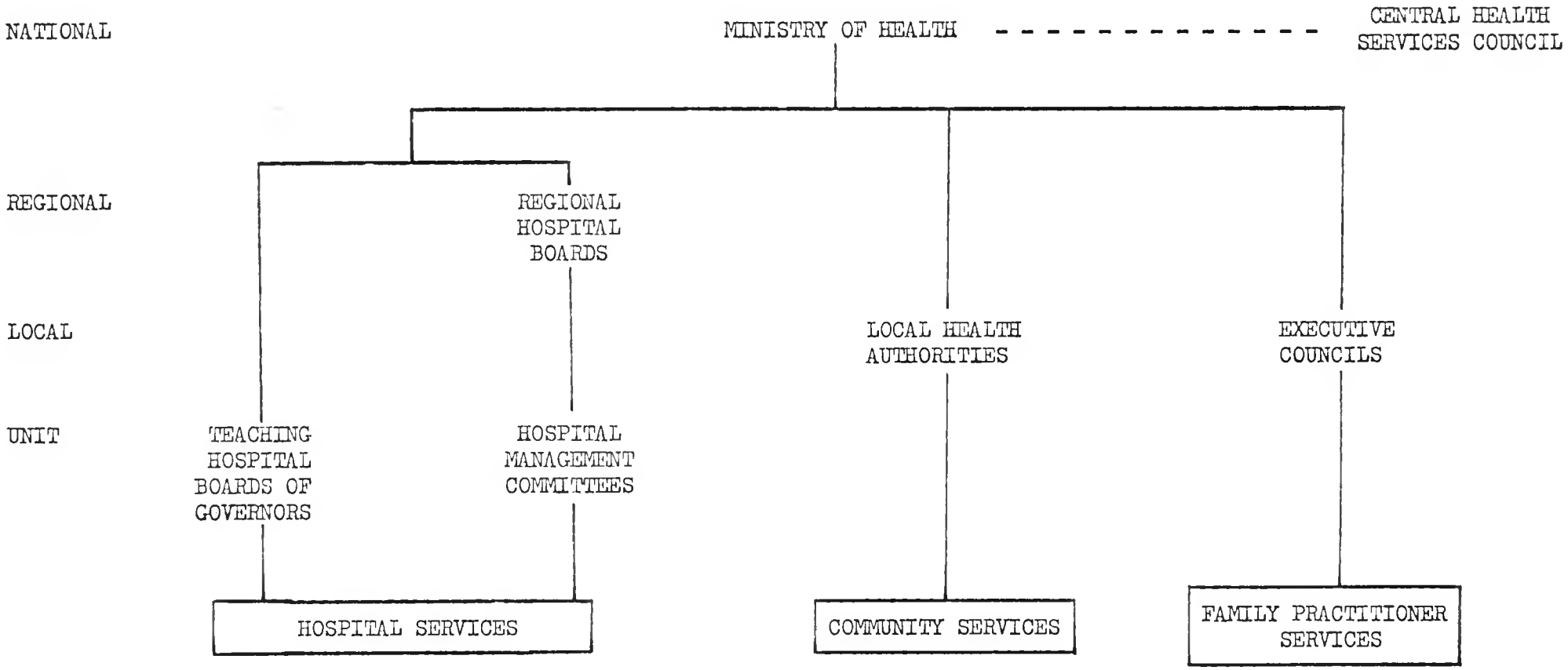


FIGURE 2a

The Structure of the National Health Service 1948-1974

(from Levitt 1976, p 18)

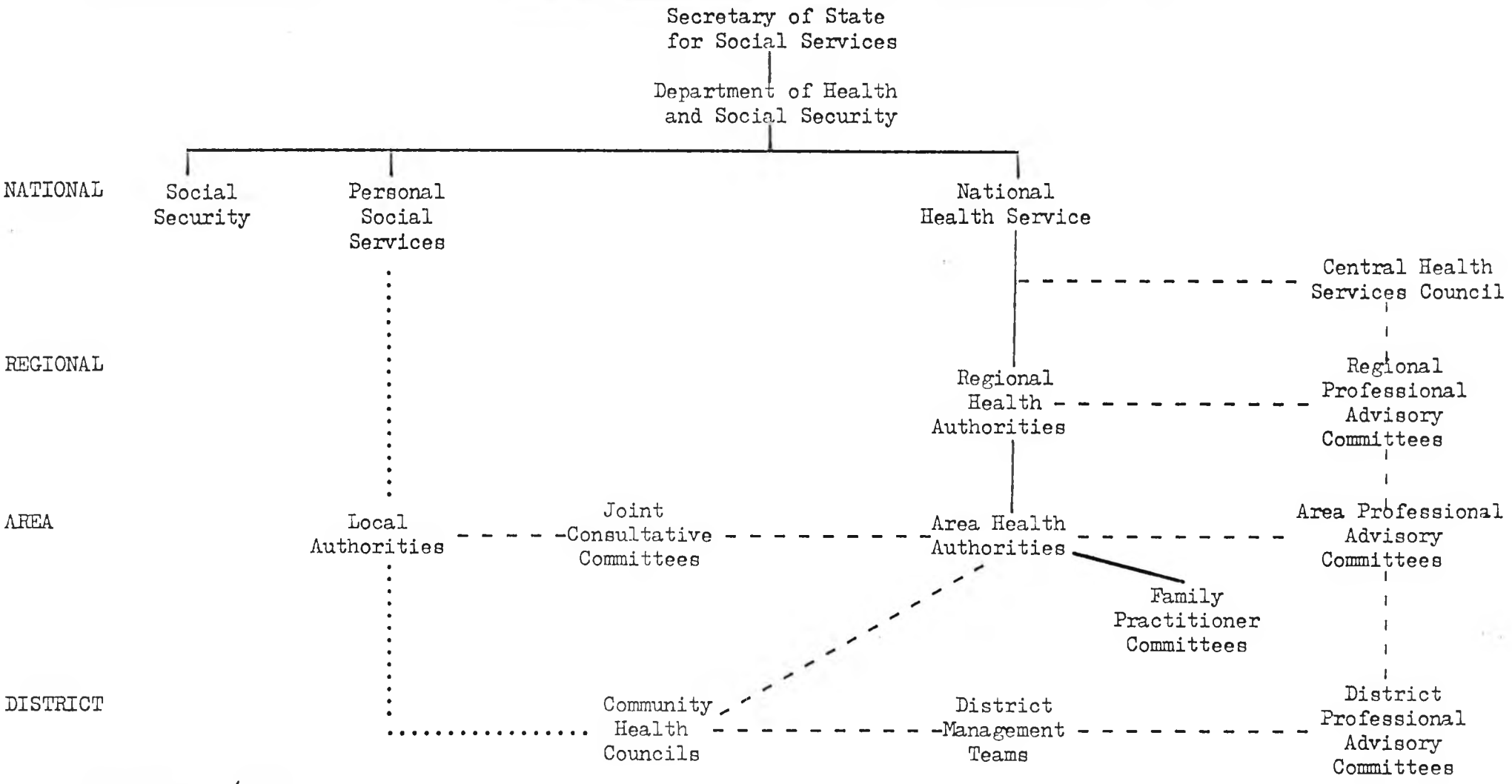
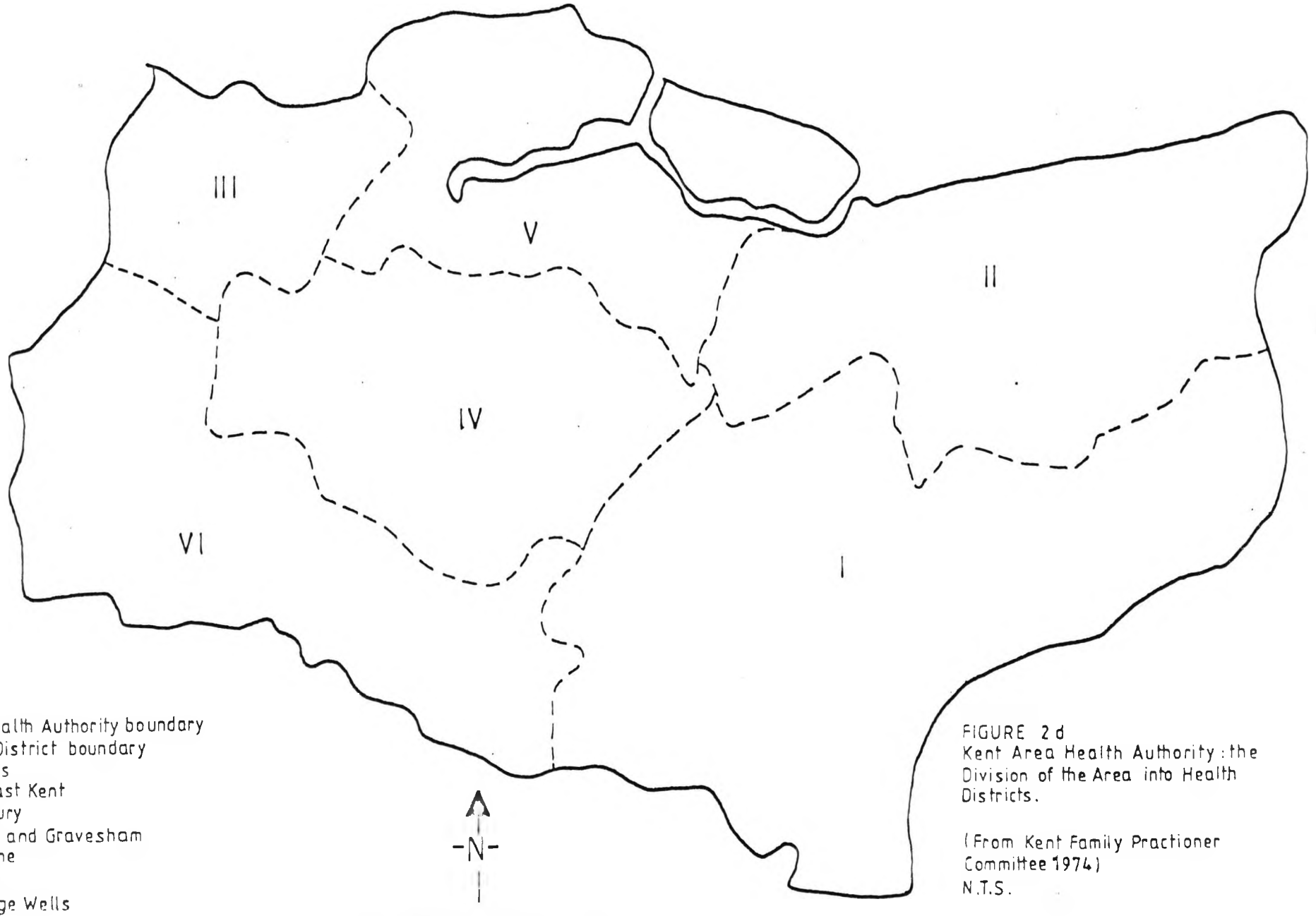


FIGURE 2b

The Structure of the National Health Service after Reorganisation in 1974

FIGURE 2c

England: Boundaries of Regional Health Authorities and Area Health Authorities (From D.H.S.S. 1977, P198)



KEY

Area Health Authority boundary

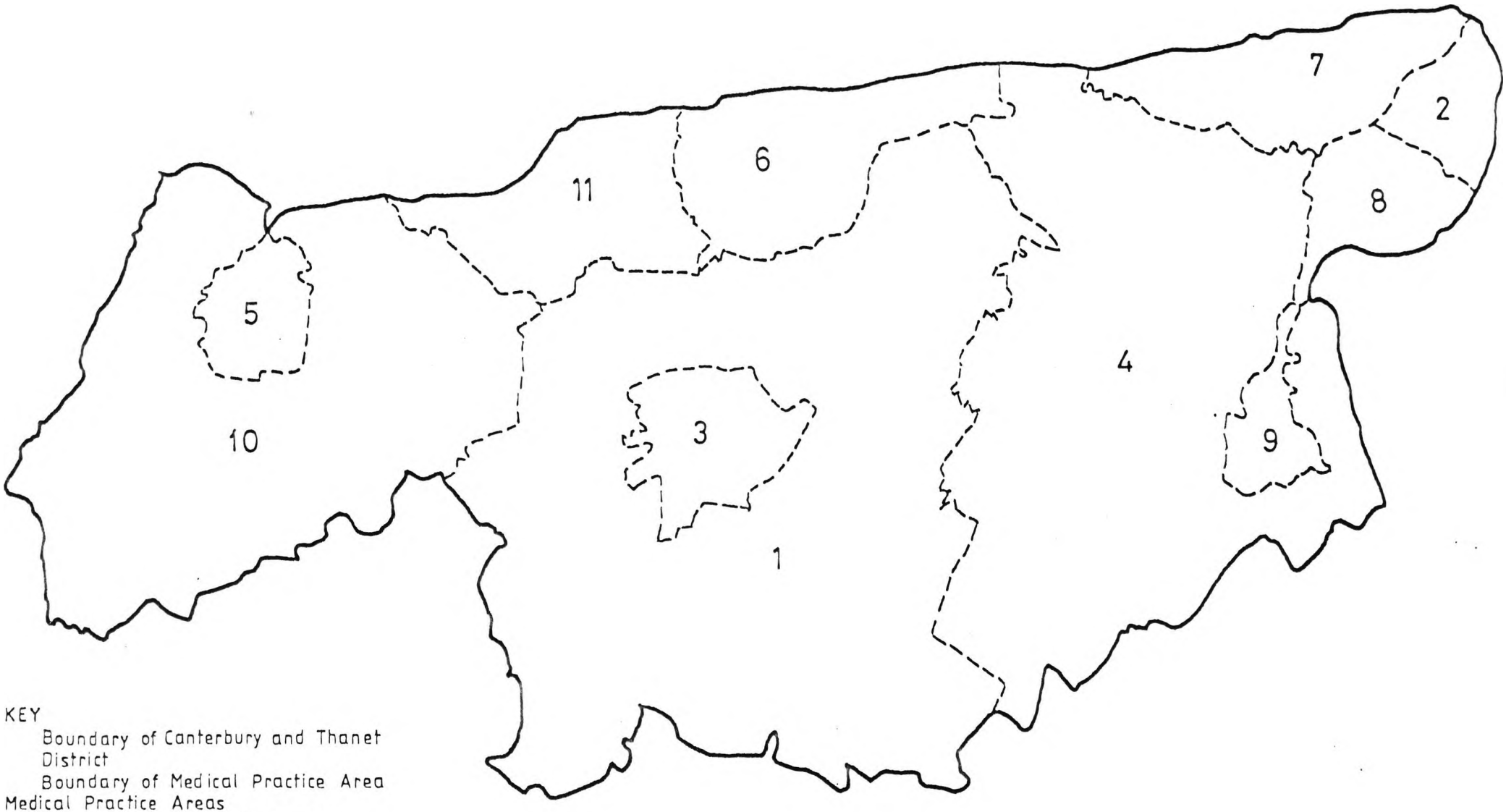
Health District boundary

Health Districts

I South East Kent
II Canterbury
III Dartford and Gravesham
IV Maidstone
V Medway
VI Tunbridge Wells

FIGURE 2 d
Kent Area Health Authority : the Division of the Area into Health Districts.

(From Kent Family Practioner Committee 1974)
N.T.S.



KEY

Boundary of Canterbury and Thanet District

Boundary of Medical Practice Area

Medical Practice Areas

1 Bridge Blean
2 Broadstairs and St Peters
3 Canterbury
4 Eastry North
5 Faversham
6 Herne Bay
7 Margate
8 Ramsgate
9 Sandwich
10 Swale East
11 Whitstable

-N-

FIGURE 2e
Canterbury and Thanet Health District: The Boundaries of Medical Practice Areas

0 5Km

CHAPTER 3

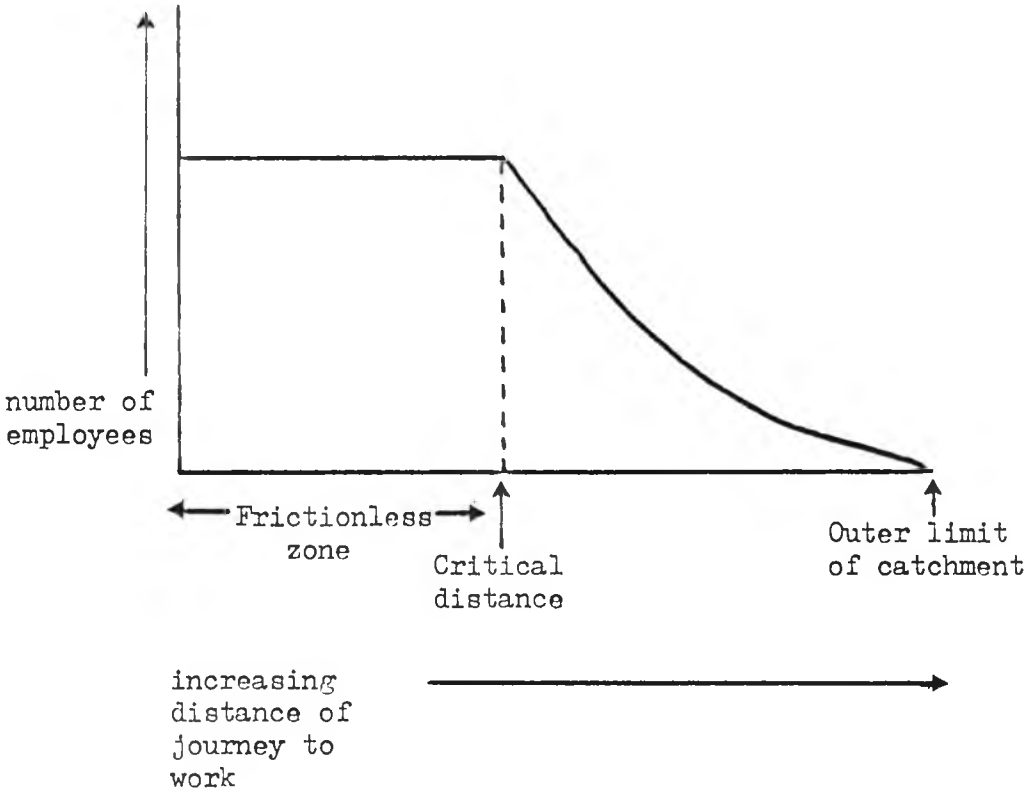


FIGURE 3a

Graph of Distance Travelled to Work from a Study by Getis, Showing Distance Decay Beyond the "Frictionless Zone"

(from Getis, 1969)

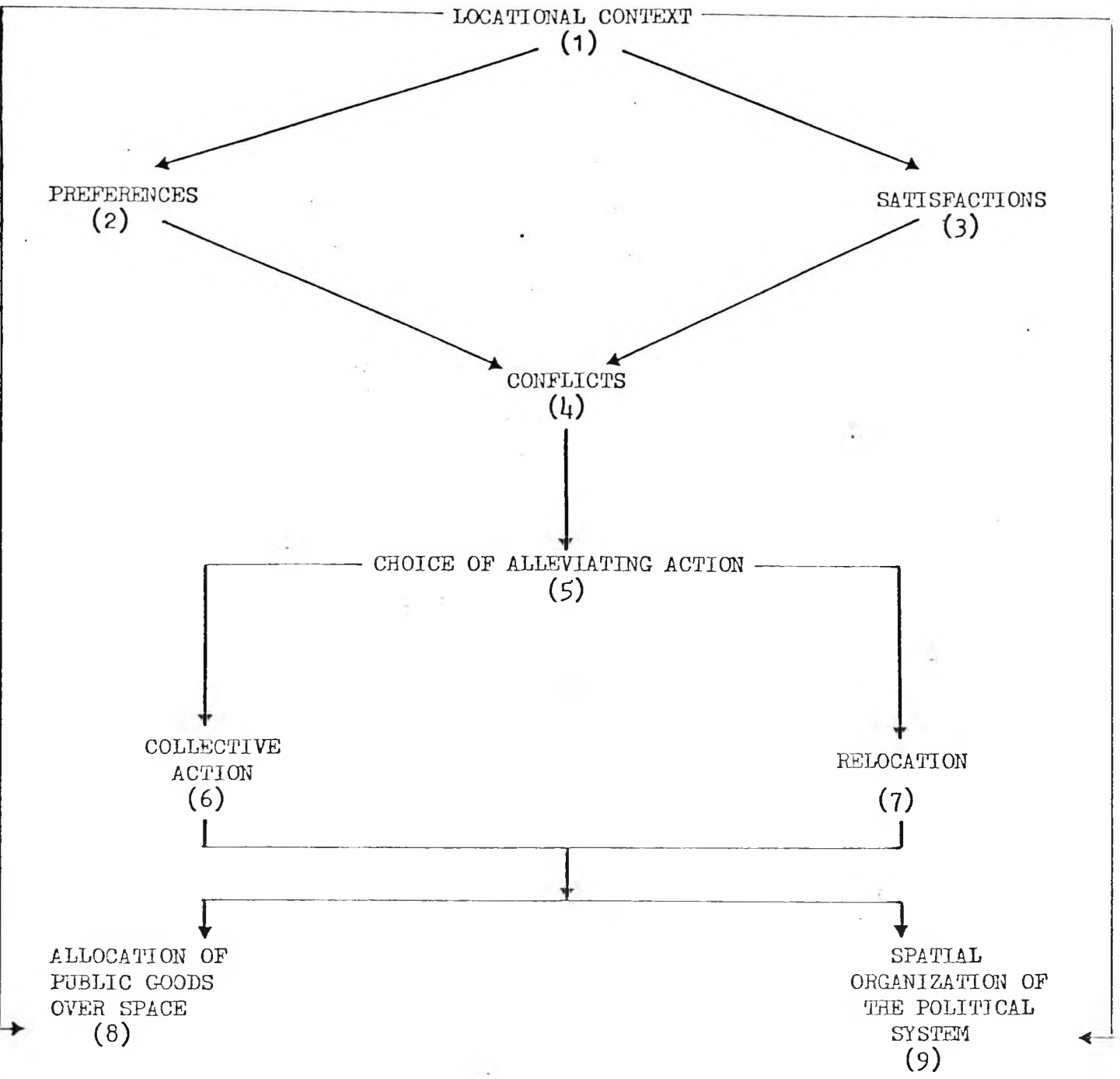


FIGURE 3b

The Political System in a Locational Context Proposed by Cox and Reynolds.

from Cox and Reynolds 1974

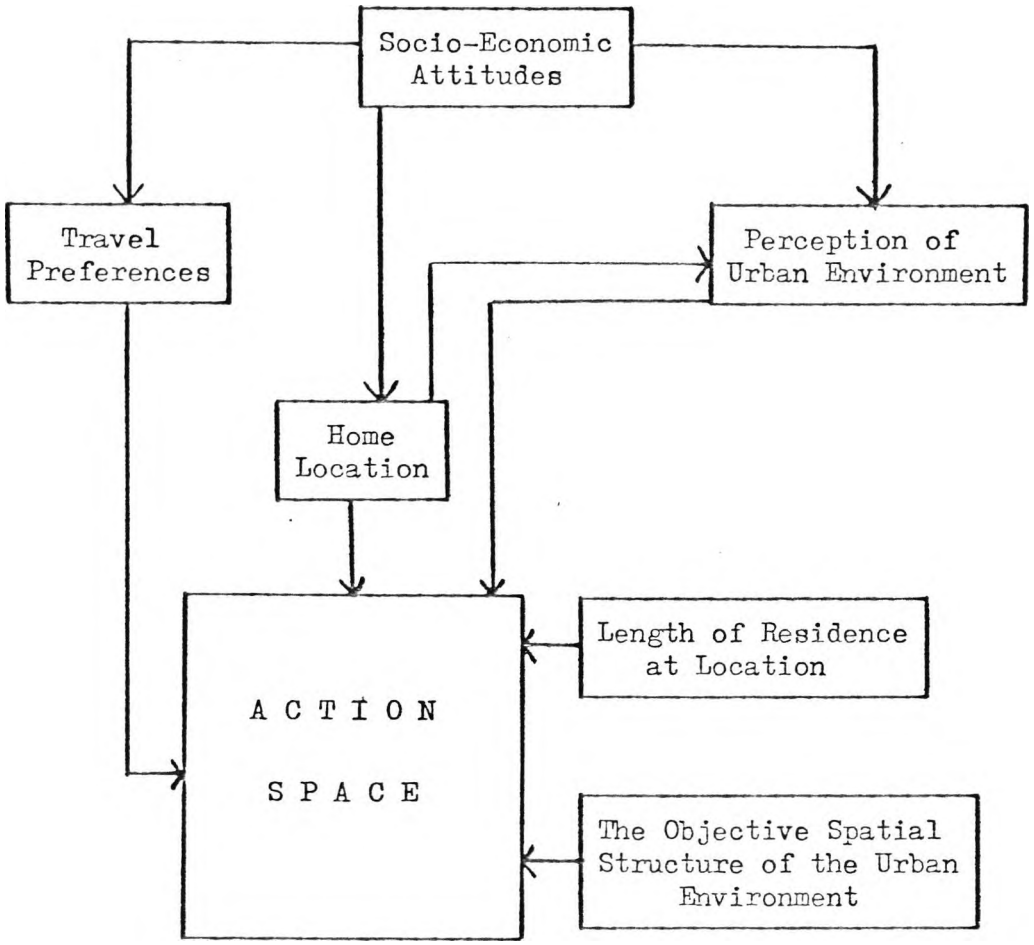


FIGURE 3c

Conceptual Model of the Action Space Proposed by Horton and Reynolds

(from Horton and Reynolds 1969)

CHAPTER 4

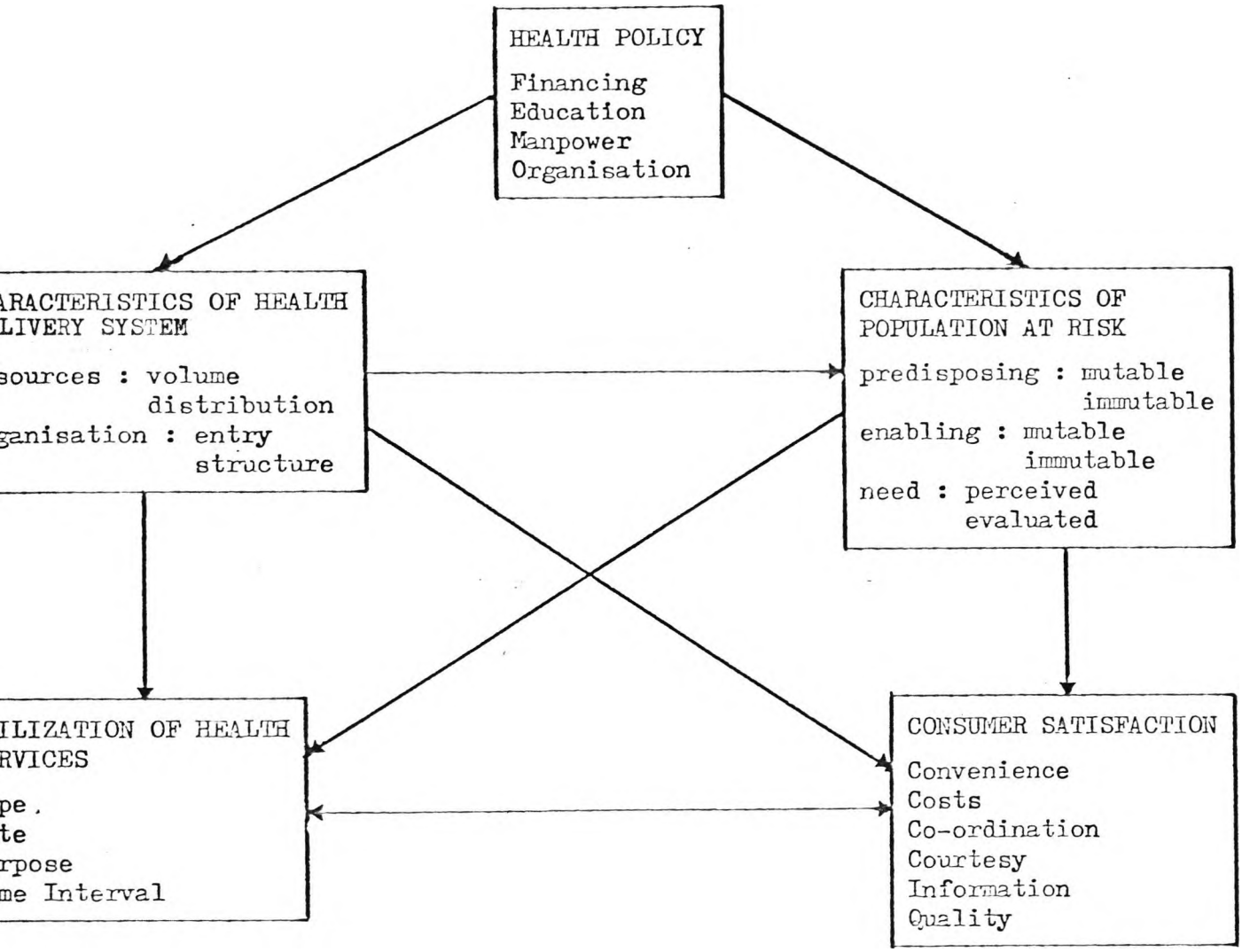


FIGURE 1a

Conceptual Framework for the Study of Access to Health Care by Adey and Anderson.

(from Aday and Anderson, 1974, p.212)

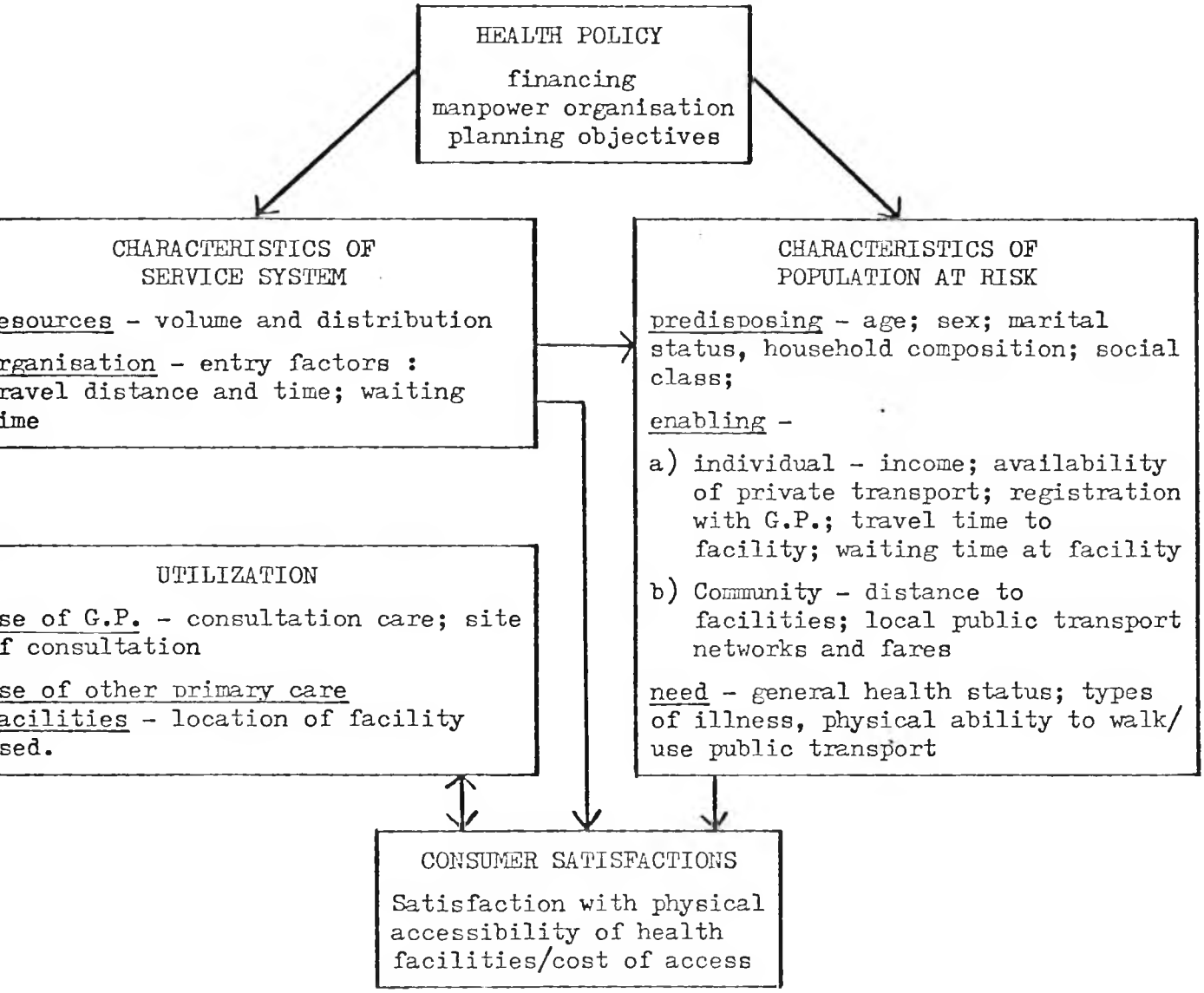


FIGURE 4b

Conceptual framework employed for the Study of Spatial Access to Primary Health Care facilities.

(adapted from Adey and Anderson, 1974)

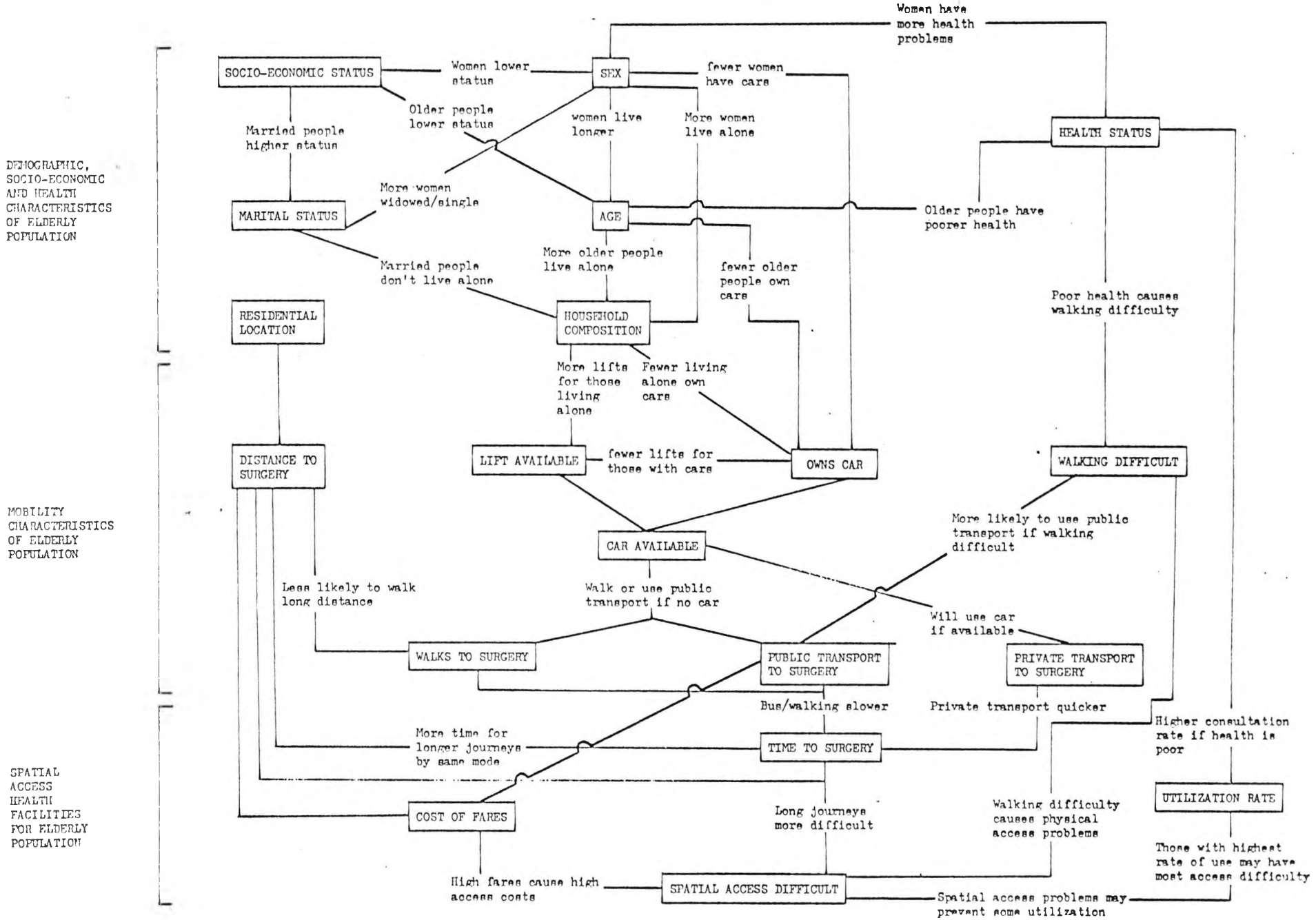


FIGURE 4c
Associations Hypothesised Between Characteristics of the Elderly Population and Spatial Access to the Doctor's Surgery

CHAPTER 6

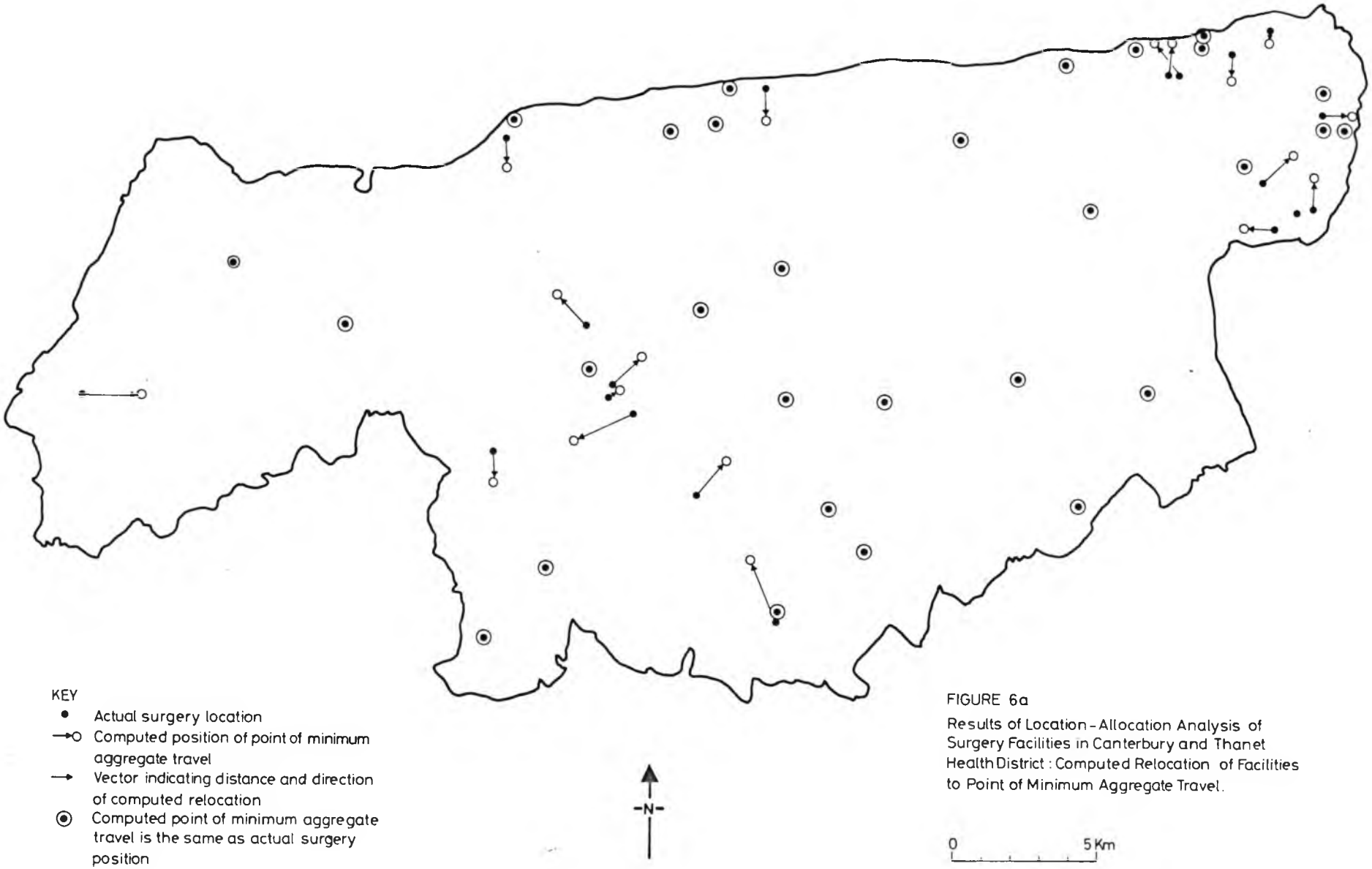


FIGURE 6a

Results of Location - Allocation Analysis of Surgery Facilities in Canterbury and Thanet Health District : Computed Relocation of Facilities to Point of Minimum Aggregate Travel.

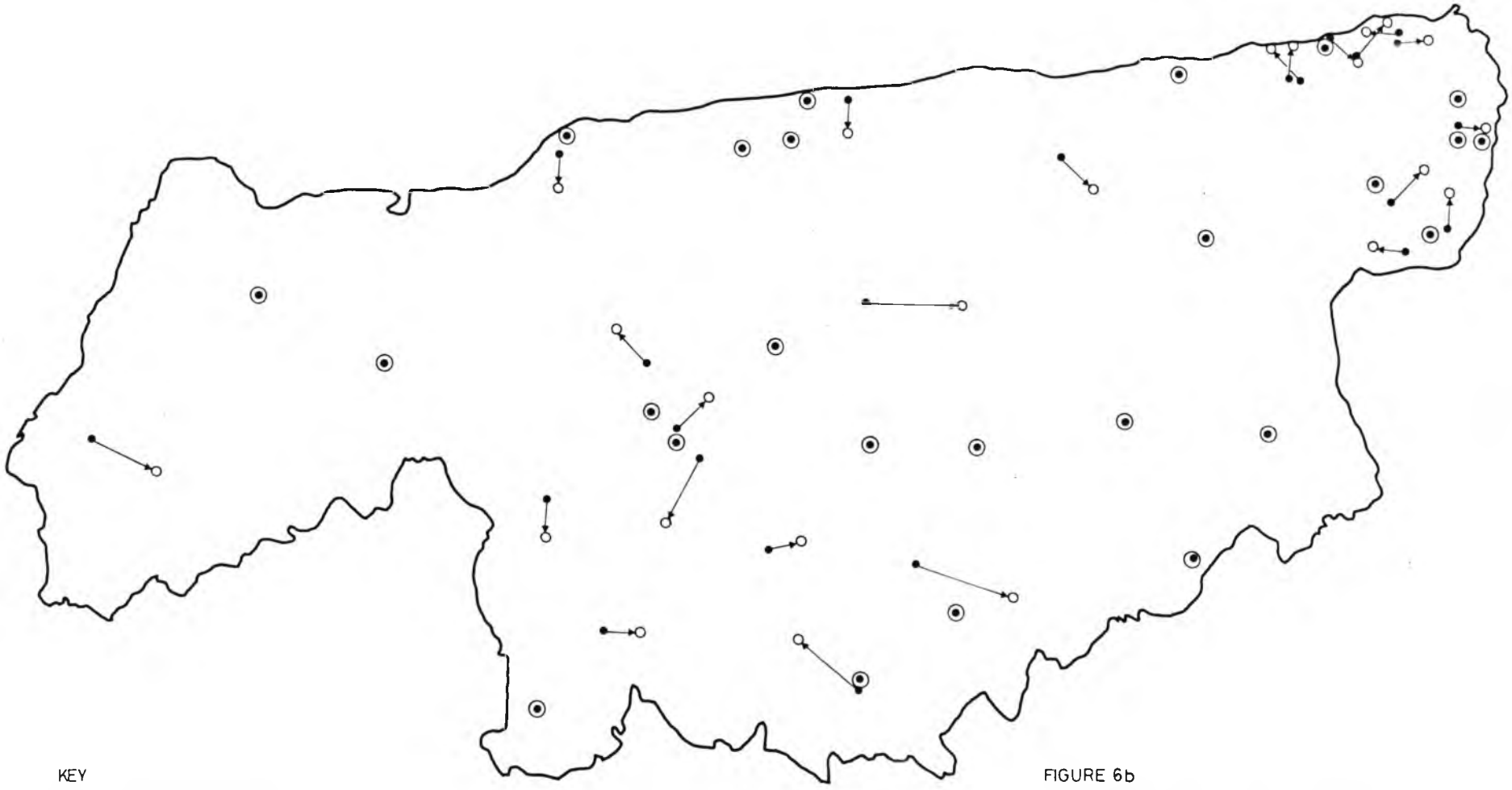


FIGURE 6b

Results of Location-Allocation Analysis of Surgery Facilities in Canterbury and Thanet Health District: Computed Relocation of Facilities to Centre of Gravity.

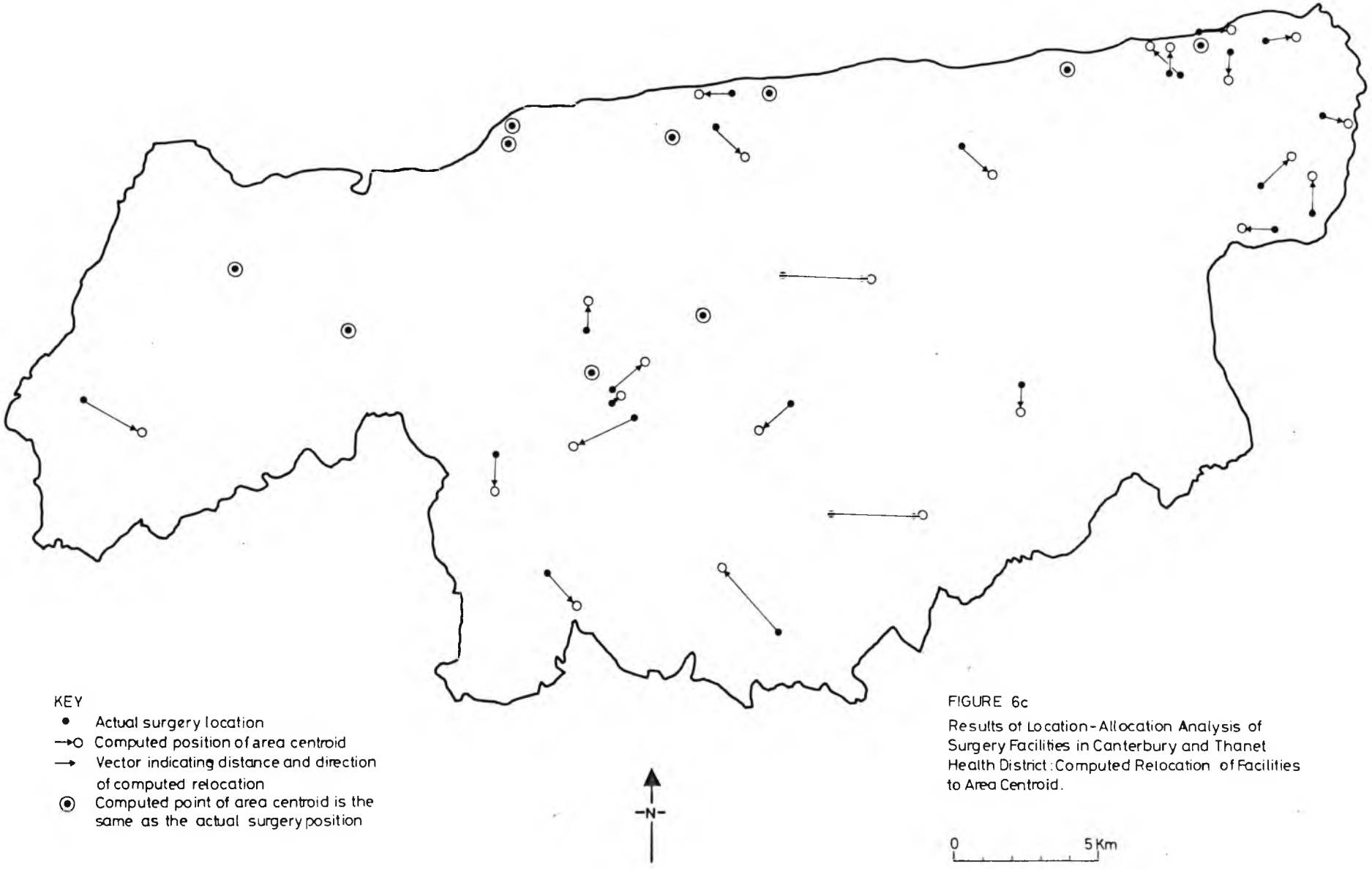


FIGURE 6c

Results of Location-Allocation Analysis of Surgery Facilities in Canterbury and Thanet Health District: Computed Relocation of Facilities to Area Centroid.

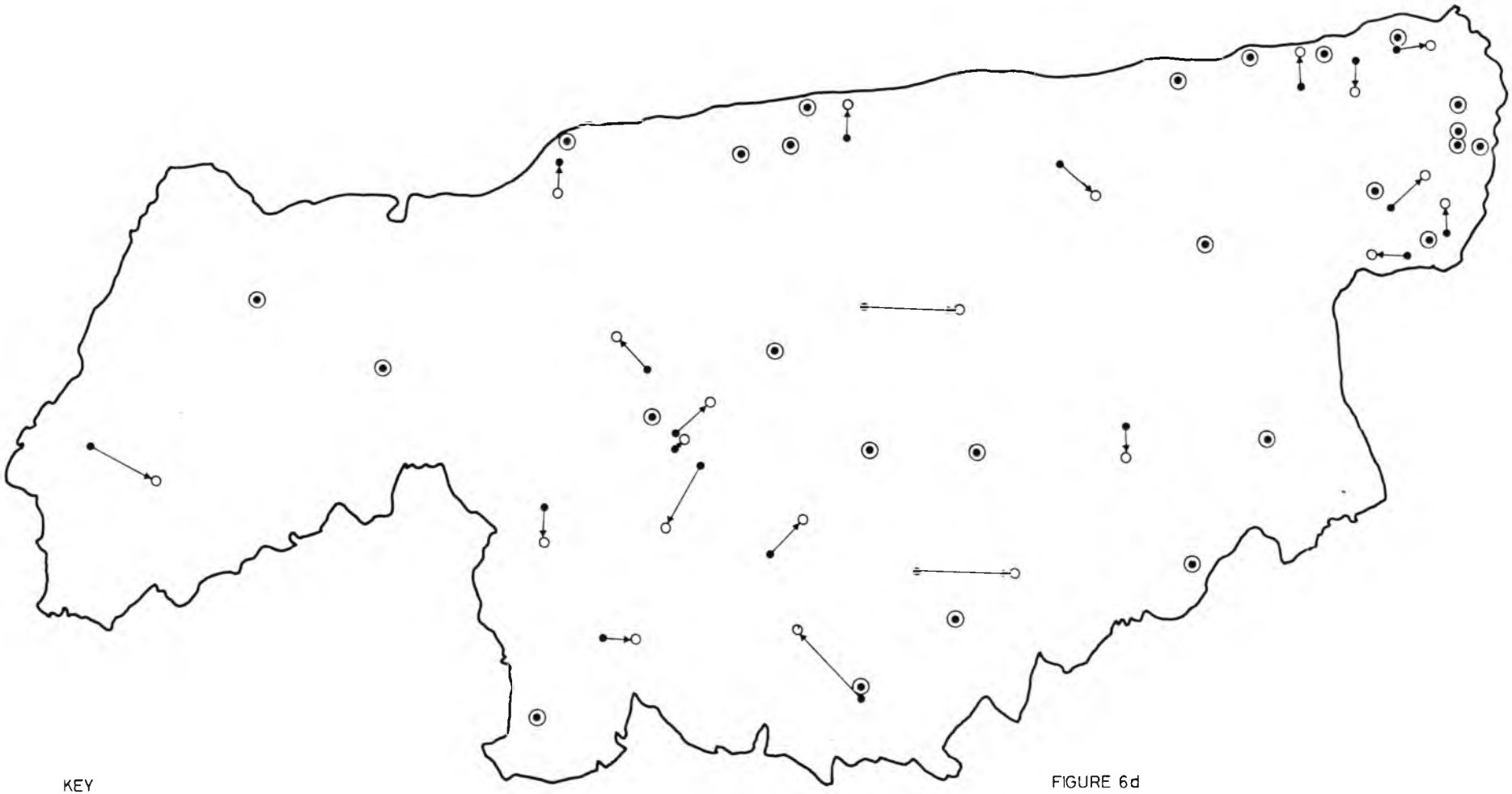


FIGURE 6d
Results of Location-Allocation Analysis of Surgery Facilities in Canterbury and Thanet Health District : Computed Relocation to point of Minimum Variance.

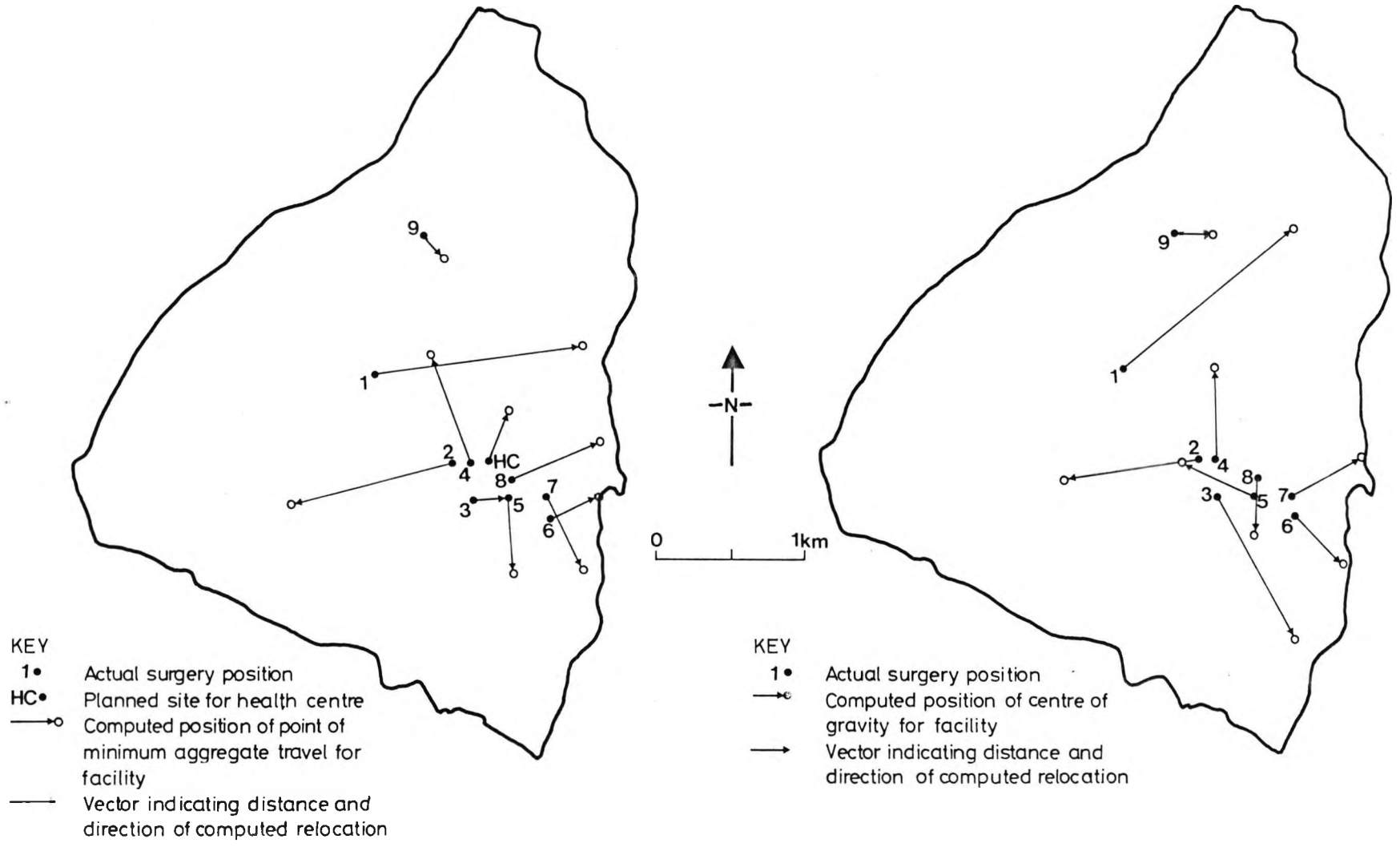


FIGURE 6e
Results of Location-Allocation Analysis of Broadstairs Surgery Facilities and Planned Health Centre Site: Relocation of Facilities Computed to Point of Minimum Aggregate Travel.

FIGURE 6f
Results of Location-Allocation Analysis of Broadstairs Surgery Facilities : Relocation of Facilities Computed to Centre of Gravity.

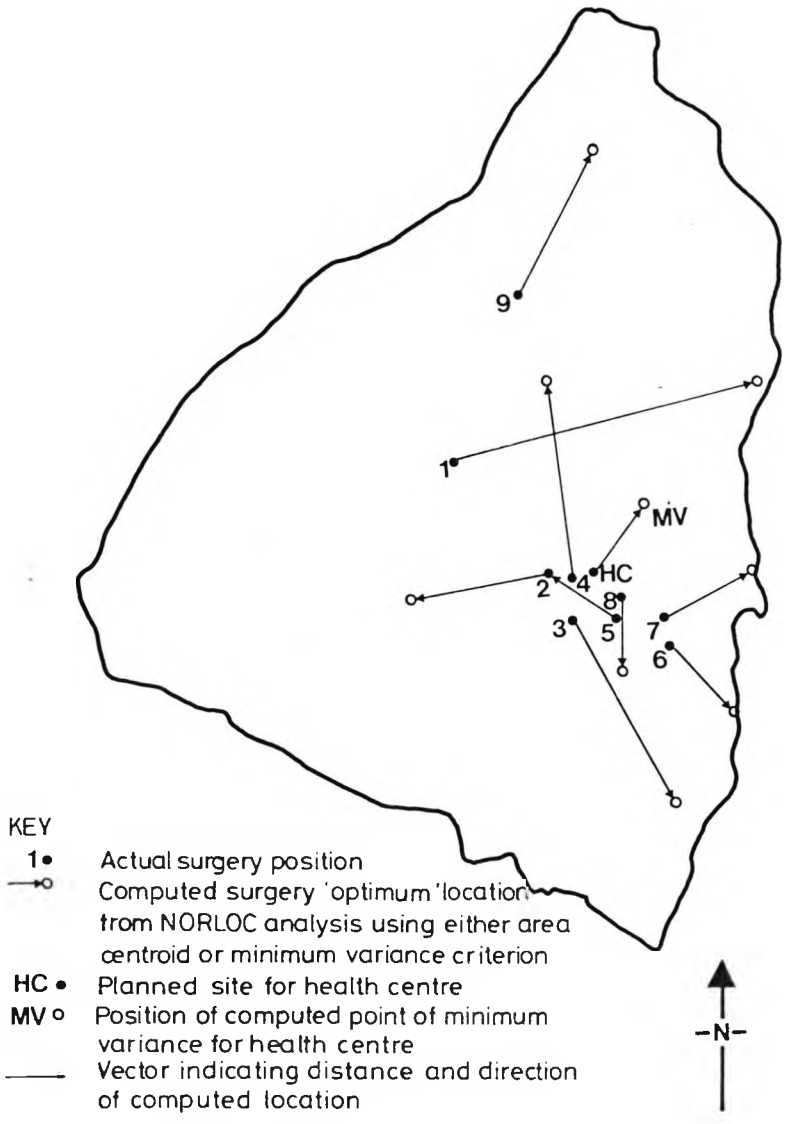
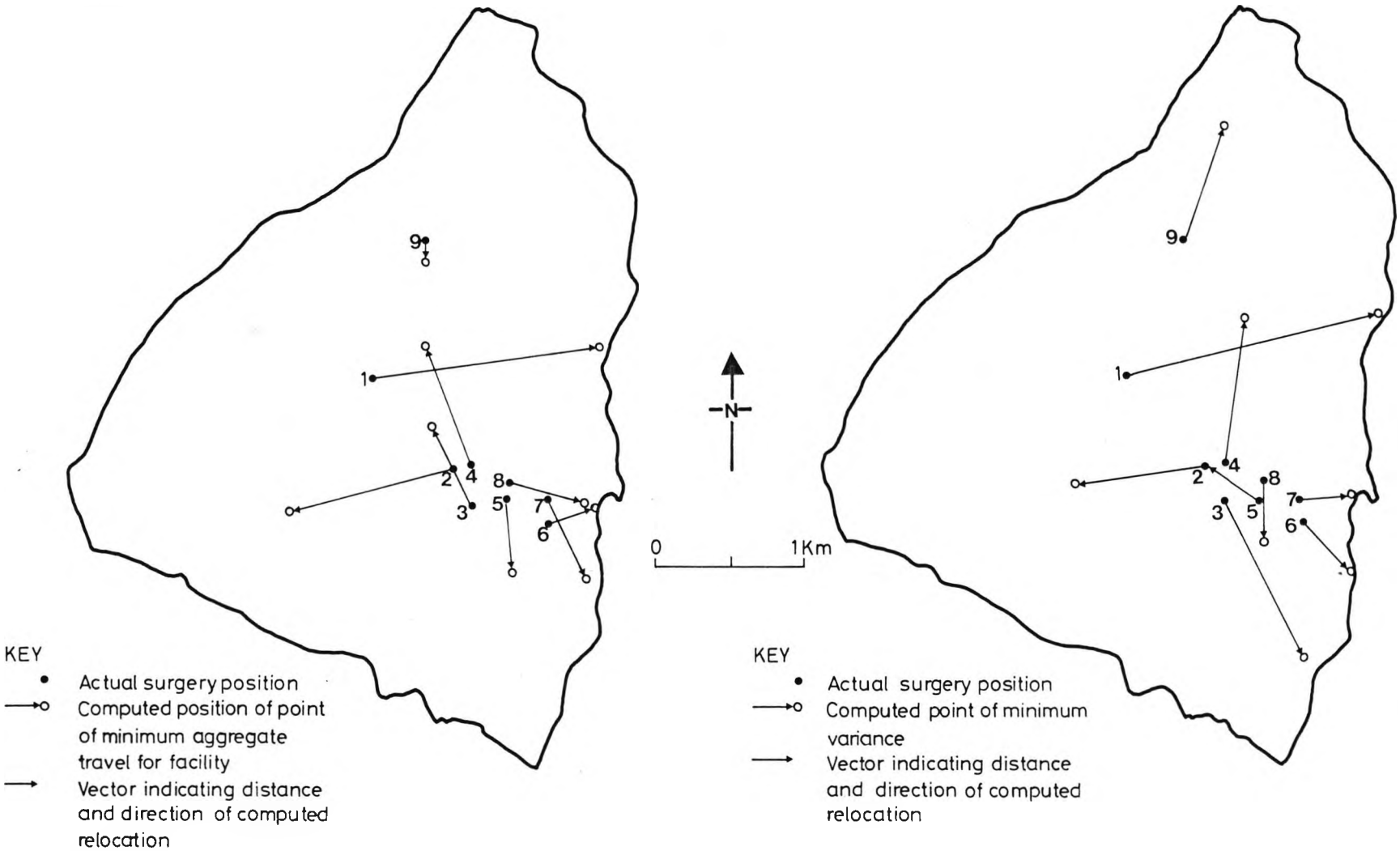


FIGURE 6g

Results of Location-Allocation Analysis of Broadstairs Surgery Facilities and Planned Health Centre Site: Relocation of Facilities Computed to Area Centroid and Point of Minimum Variance Positions.



Weighting : Number of Old Age Pensioners Multiplied by Two ; Others by One.

FIGURE 6 h

Results of Location-Allocation Analysis of Broadstairs Surgery Facilities : Relocation to Point of Minimum Aggregate Travel with Elderly Population Weighted.

FIGURE 6 i

Results of Location-Allocation Analysis of Broadstairs Surgery Facilities : Relocation to Point of Minimum Variance with Elderly Population Weighted.

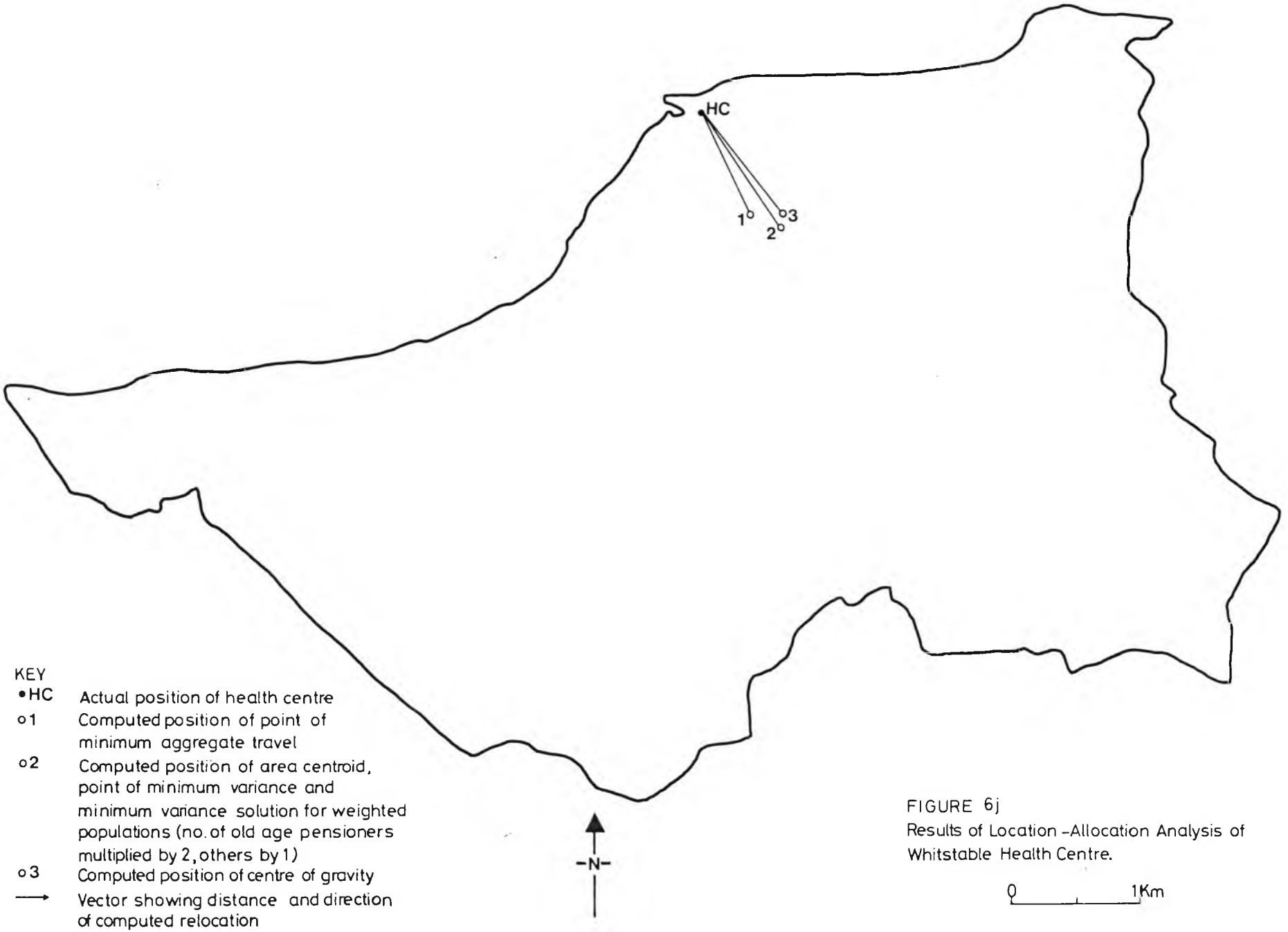


FIGURE 6j
Results of Location -Allocation Analysis of Whitstable Health Centre.

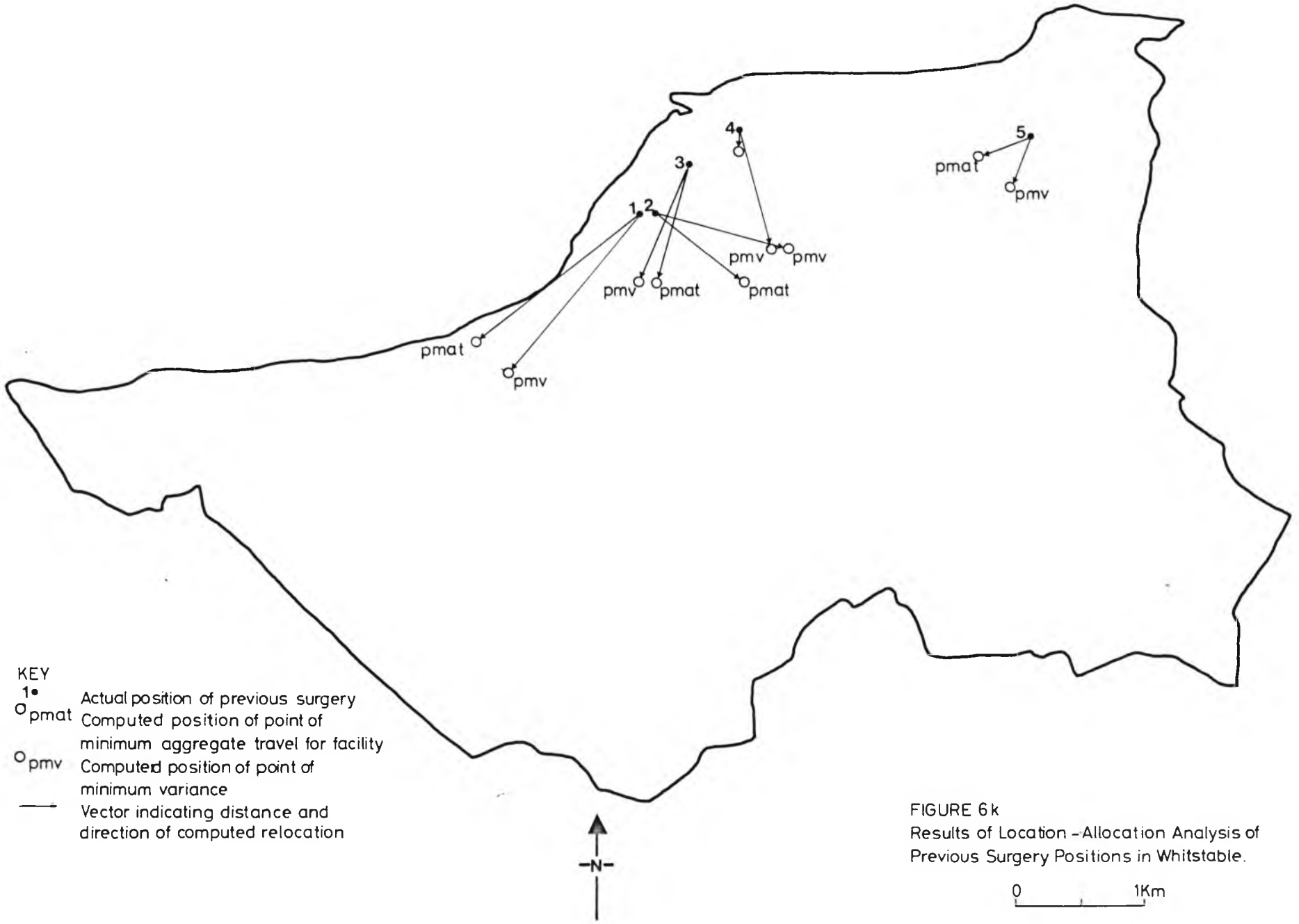
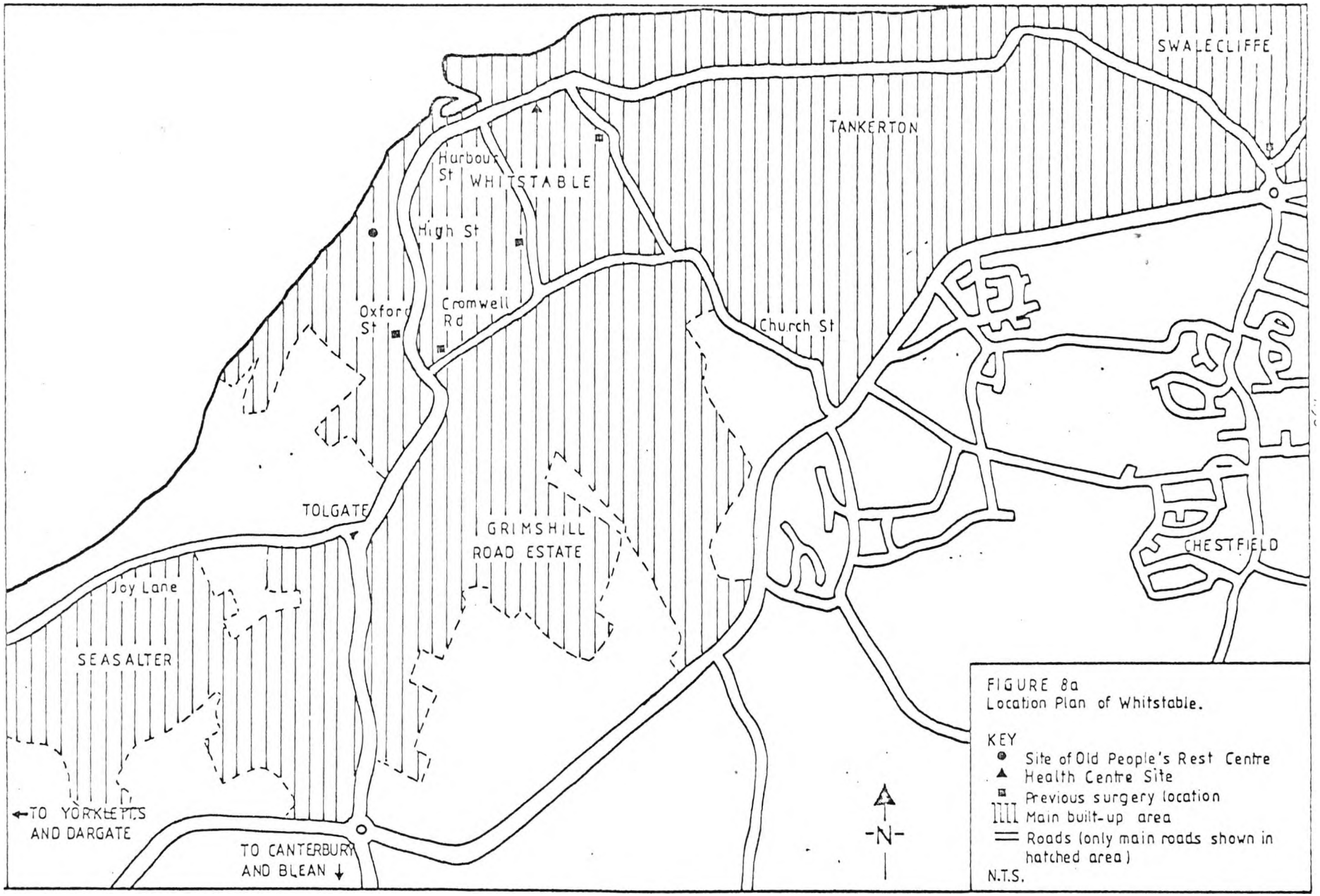


FIGURE 6k
Results of Location - Allocation Analysis of Previous Surgery Positions in Whitstable.


SWALECLIFFE
TANKERTON
Harbour St
WHITSTABLE
High St
Oxford St
Cromwell Rd
Church St
TOLGATE
GRIMSHILL ROAD ESTATE
CHESTFIELD
Joy Lane
SEASALTER
←TO YORKLETTS AND DARGATE
TO CANTERBURY AND BLEAN ↓
-N-
FIGURE 8a
Location Plan of Whitstable.
KEY
Site of Old People's Rest Centre
Health Centre Site
Previous surgery location
Main built-up area
Roads (only main roads shown in hatched area)
N.T.S.

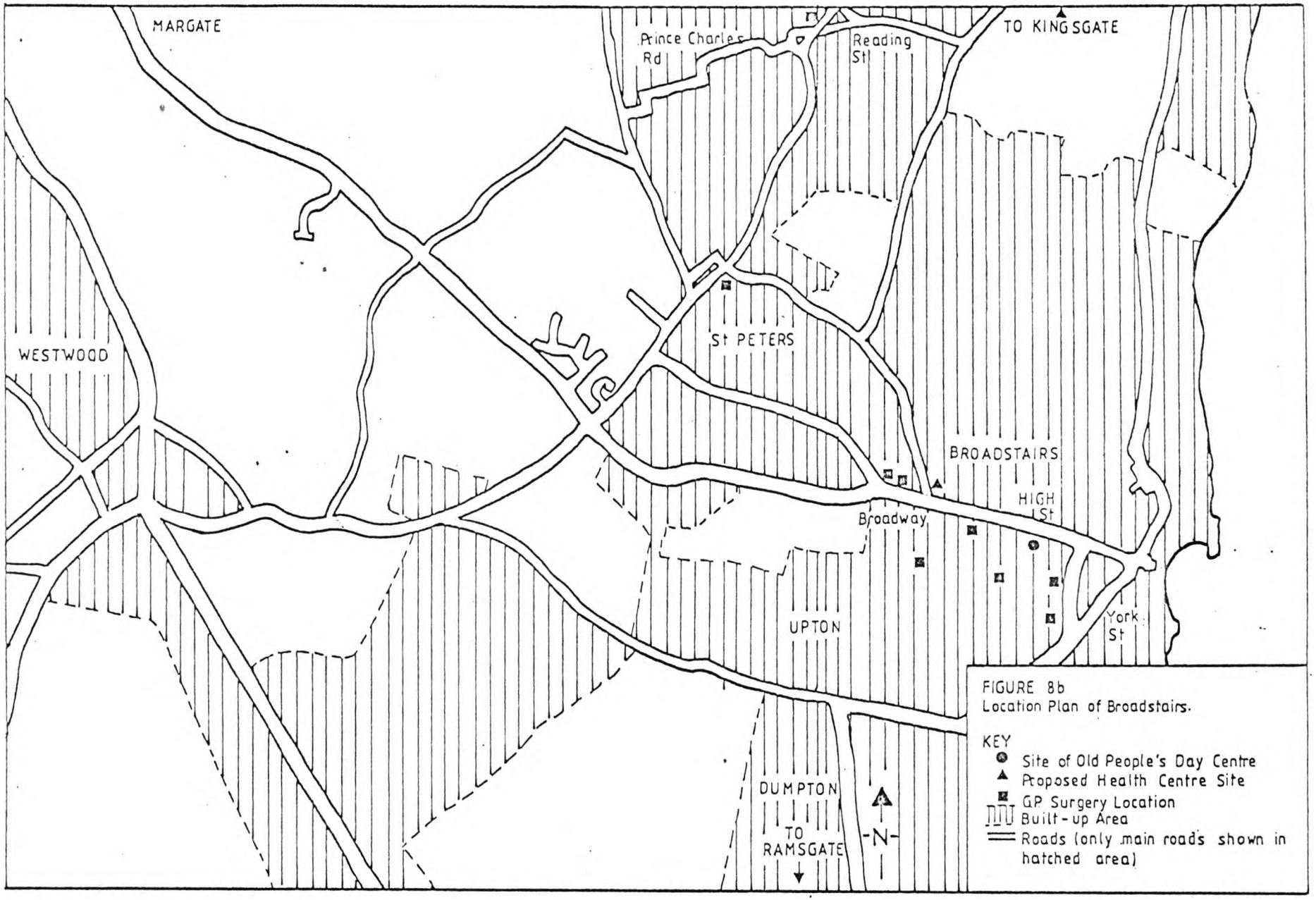


FIGURE 8b
Location Plan of Broadstairs.

Associations to be tested	Independent variables	Dependent variables
1. Explanation of mobility variables in terms of socio-demographic and health condition	SOCIO-DEMOGRAPHIC FACTORS Sex Age Household composition Marital status Social status	CAR AVAILABILITY
	SOCIO-DEMOGRAPHIC FACTORS HEALTH CONDITION	WALKING ABILITY
2. Explanation of travel mode in terms of distance and mobility	DISTANCE TO SURGERY MOBILITY FACTORS Car availability Walking	TRAVEL MODE
3. Explanation of journey "Costs" in terms of distance, travel mode and fare concessions	DISTANCE TO SURGERY TRAVEL MODE Walk Bus Car	TRAVEL TIME TO SURGERY
	DISTANCE TO SURGERY FARE CONCESSIONS	COST OF FARES TO SURGERY
4. Explanation of perceived access difficulty in terms of distance and journey costs	DISTANCE TO SURGERY JOURNEY COSTS Cost of fares Time to surgery Walking difficulty	PERCEIVED ACCESS DIFFICULTY

FIGURE 9a

Associations Tested by Analysis of Variance

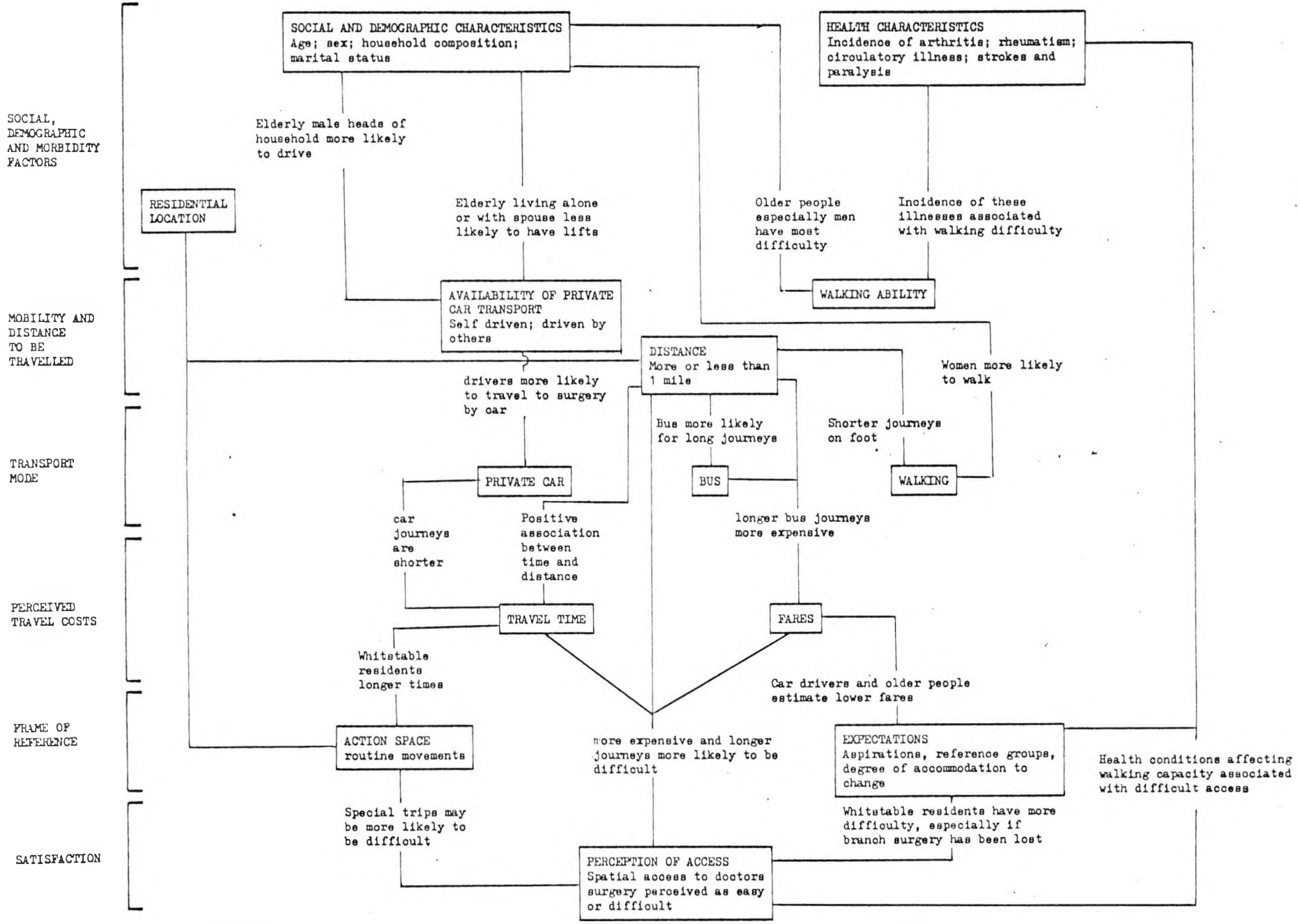


FIGURE 9b

Revised Model of Associations Between Factors Related to Spatial Accessibility of the Doctor's Surgery for Elderly Respondents.

APPENDIX 3

SURVEY QUESTIONNAIRE SCHEDULES

APPENDIX 3A PILOT SURVEY SCHEDULE

ACCESS TO PRIMARY CARE : INTERVIEW SCHEDULE

location of interview: respondent's sex:

Introduction

I am from the University of Kent at Canterbury and I am carrying out a study of the views of the public on how easy it is to get to a doctor if you need one. If you would not mind answering some questions for me, I would be very interested to hear your views.

All the information that I am collecting is anonymous, I do not need to record your name, however, it would help me to organize my information if you would answer one or two general questions about yourself first of all.

1) Where do you live? (Is this where you live?)
Is that where you live all the time?
How long have you lived there?

2) Are you registered with an N.H.S. doctor?
If no: Do you have a regular doctor with a private practice?
If no regular doctor: Where would you go if you needed to see a doctor?

3) Do you drive a car?
If yes: Is it your own car?
If yes: Is the car always there for you to use whenever you need it?
If no: If you need to get somewhere by car is there anyone who can give you a lift?

4) Do you have a telephone in your home?
If no: Is there one nearby which you can use?

5) How many people are there in your household including yourself?
If more than 1: Are any of the people in your household over 65 years old? If yes: How many?

6) Which of these marital status groupings do you belong to?

single	widowed	separated
married	divorced	

7) What is your job?
If 'housewife': What is your husband's job?
If unemployed: What was your last job?
or retired:

Are you/ishe self employed or working for a firm?
How many other people work there? (More or less than 25)
Have you/has he had special training for the job?
Do you/does he have to supervise other people at work?

If farmer: Do you/does he employ other people on the farm?

If working: Where do you go to work?
How far is that from your home?
How long does it take to get to work?

8) Which of these age groupings do you belong to?

0-15	21-30	41-50	61-70	81+
16-20	31-40	51-60	71-80	

Now can you tell me about the place where you live/this area?

9) Here is a list of everyday facilities, for each one, can you tell me:
   a) Where is it located?
   b) How far is it from your home?
   c) How long does it take you to get there?

i. Where you/your wife go to do the weekly shopping;
ii. Your nearest Post Office;
iii. Your nearest dispensing chemist;
iv. Your nearest clinic; (specify which type of clinic if applicable)
v. Your nearest hospital casualty department.

Now can you tell me about getting to your doctor.
(If respondent has no regular doctor, start from question 14 with suitable adjustments to phraseology)

10) First; Where is your doctor's surgery?

11) Is that the nearest doctor's surgery to your home?

12) Do you usually visit the surgery to see your doctor, or does your doctor generally come to your home if you need to see him?

    Why is that?

13) If you are going to see a doctor, do you usually go to that surgery or do you see a doctor somewhere else?
    If somewhere else: Where is that?
    Why do you go there?

14) When did you last visit your doctor?
    Was that for yourself or for someone else?
    Would you tell me why you decided to go to the doctor? (Was it because of an accident or sudden illness, or for something you had had for some time?)
    If not an emergency: Was that the first time that you had been to the doctor about that?

15) If has visited the doctor within the last year:
    About how many times have you been to the doctor since this time last year?
    About how many times has the doctor called at your home since this time last year?

16) If you are going to see the doctor at the surgery, how do you travel there?
    own car
    someone else's car (including spouse's if it is taken to work)
    bus
    train
    taxi
    on foot
    other

17) How long does it take to get there?
About how long does the whole trip take, allowing for getting to and from the surgery and seeing your doctor?

18) If using public transport; How much does the return trip cost?

19) If you are going to see the doctor at the surgery, do you usually have to make a special journey to get there, or do you call at the doctor's while you are on the way home from work, or out doing the shopping or something?
How far is your doctor's surgery from where you work/do your shopping?

20) Does your doctor have an appointment system?
Do you think that is/would be a good idea?

21) If access to a phone: Do you ever consult your doctor over the telephone?

22) Why did you choose your particular doctor?

23) Would you like to have a doctor's surgery somewhere else, or are you happy with it where it is?

24) On the whole, do you think that it is reasonably easy to get to a doctor if you need one, or do you find it difficult?

APPENDIX 3 B FIRST PHASE INTERVIEW SCHEDULE

Interview schedule : Access to Primary Health Care

Introduction

I am from the University of Kent at Canterbury and I am carrying out a study of the views of the public on how people get to health services if they need them. If you would not mind answering some questions for me, I would be very interested to hear your views.

All the information I am collecting is anonymous, I do not need to record your name, however, it would help me to organise my information if you would answer one or two general questions about yourself first of all.

Location of interview.....date.....respondent's sex.....

1) Where do you live.....

Is that where you live all the time? all the time.....not permanent.....

How long have you lived there?.....

2) Are you registered with a NHS doctor? Yes.....No.....

If no: Do you have a regular doctor? Yes.....No.....

If no regular doctor: Where would you go if you needed to see a doctor?

.....

3) Do you drive a car? Yes.....No.....

If yes: Is the car always there for you to use whenever you need it?

Yes.....No.....

If no: If you need to get somewhere by car is there anyone who can give you a lift? Yes.....No.....

Do you use the special minibus service? Yes.....No.....

4) Do you have a telephone in your home? Yes.....No.....

If no: Is there one nearby which you can use? Yes.....No.....

5) How many people are there in your household including yourself?

Alone.....1.....

If 1: Are any of the people in your household over 65 years old?

Yes.....No.....

If Yes: How many? .....

6) Would you mind telling me whether you are married.....single.....

or widowed?.....

7) Are you working or retired? Working.....Retired.....

What is/what was your last job?.....

(<u>if housewife</u>: What is/what was your husband's job?.....

Is that the job you/he had been doing for most of your(his) working life?

Yes.....No.....

Self employed/working for a firm self employed.....employee.....

How many others worked there? .....

What did (do) you (he) actually do? .....

<u>If retired</u>: Do you have a pension from the job in addition to the State pension?

Yes.....No.....

<u>If working</u>: Where is your work place?.....

How do you get there?.....

How long does that take?.....

8) Would you mind telling me how old you are? .....years

Now I would like to ask you some questions about the services in your area:

9)

	Place	Is that the one you use/ Do you go there	How would you get there from home	How long does/would it take to get there from home	How much is the return fare from home	Would you make a special journey to go there; or go while out shop-ing or something
a) Where do you go for the weekly shopping?						
b) Where is your nearest Post Office?						
c) Where is your nearest dispensing chemist?						
d) Where is your doctor's surgery?						
e) Where is your nearest chiropody clinic?						
f) Where is your nearest hospital outpatient clinic?						
g) Where is your nearest hospital casualty unit?						

Now I would like to ask you about how you get to see a doctor if you need one:

10) Is your doctor's surgery the nearest one to your home? Yes.....No.....

11) Do you usually visit the surgery to see your doctor, or does the doctor generally come to your home if you need him?

goes to surgery.....Dr. calls.....

Why is that?.....

<u>If goes to surgery</u>: How long do you usually have to wait at the surgery before seeing the doctor?.....

Is there an appointment system? Yes.....No.....

Is that a good idea, do you think? Yes.....No.....

12) When did you last visit your own doctor?.....

Was that for yourself or for someone else? self.....someone else.....

Would you tell me why you decided to go to the doctor? (Was it because of an accident or sudden illness, or for something you had had for some time?

sudden illness.....accident/emergency.....chronic illness.....

prescription.....checkup.....other.....

13) <u>If has seen the doctor in the last year</u>: Do you see the doctor regularly?

.....or just occasionally.....

<u>If regularly</u>: How often do you see the doctor?.....

14) Do you ever talk to the doctor over the phone about an illness instead of going to see him?

Yes.....No.....

15) Why did you choose your particular doctor?.....

16) On the whole, do you find it easy to get to the doctor's surgery and the other health services or do you find it difficult?

easy.....

difficult.....

APPENDIX 3 C SECOND PHASE INTERVIEW SCHEDULE

ACCESS TO PRIMARY HEALTH CARE: QUESTIONNAIRE INTERVIEW NO.

I am a student from the University at Canterbury, and I am carrying out a study of the views of the public on how people get to health services if they need them. If you would not mind answering some questions for me, I would be very interested to hear your views. All the information I am collecting is anonymous: I do not need to know your name, but I would like to ask you one or two general questions about yourself first of all, to help me to organise the information later.

V3
Location of interview.....date.....respondent's sex..... V4

1a) What is the name of the street where you live?..... V5

1b) How long have you lived there? .....years V7

2a) Are you registered with a doctor? Yes.....No..... V8

If no: Do you have a regular doctor? Yes.....No..... V9

If no regular doctor: c) Where would you go if you needed to see a doctor?

..... V10

3a) Do you have a car? Yes.....No..... other member of H. does..... V10[1]

If Yes: Do you drive it? Yes.....No..... V11

If no: If you need to get somewhere by car is there anyone who can give you a lift? Yes.....No..... In an emergency..... V13

d) Do you have a concessionary fare card for the bus? Yes.....No..... V

Whitstable only e) Do you use the voluntary minibus service? Yes....No....V14

If yes: f) How often do you use it? every..... V15

g) Why do you make that journey?.....V16

4) Do you have a telephone in your home? Yes.....No..... V17

5) How many people are there in your household?

alone.....spouse.....+ other(s).....+ younger family.....

institution..... V19

6) Would you mind telling me whether you are married.....single.....

or widowed..... V21

7a) Are you retired.....or working.....? V22

If working: b) Where do you go to work?.....

c) (What is) What was your last job?.....

If Housewife: d) What was (is) your husband's job?.....

e) Self employed.....or working for a firm.....? V23

If retired: Do you have any pension from your job (your husband's work) in addition to the state pension? Yes.....No..... V24

8) Would you mind telling me how old you are? .....years V25

9a) Do you have any illness or disability which handicaps you or interferes with your activities in any way? Yes.....No..... V102

If yes: bi) What kind of illness or disability do you have? V103

bii) In what way does .....handicap you or interfere with your activities?.....V104

If yes or no: c) Would you say in general you enjoy good health or not? Yes.....No..... V105

Now I would like to ask you about the services in your area:

1a) First of all, where do you go for the weekly shopping? V43

1bi) Where is your nearest Post Office?.....V47

bii) Is that the one you use? Yes.....No..... .....V48

ci) Where is your nearest dispensing chemist, where you can get a prescription made up?.....V56

cii) Is that the one you use? Yes.....No..... .....V57

ciii)Would you have to make a special journey to go there, or can you go while you are out shopping or something? spec.trip.....nospec.trip.....V62

civ) Do you find it easy.....to get to the chemist or do you find it difficult.....? If difficult: Why is that?.....V106

.....V107

di) Where is your nearest chiropody clinic?.....V68

dii) Do you go there? Yes.....No..... .....V69

diii)Would you have to make a special journey to go there, or can you go V70

(cont.)

while you are out shopping or something? spec.trip.....no spec.trip.....V74

div) Do you think that it is easy.....to get to the chiropody clinic or is it difficult.....? If difficult: Why is that? V108

.....

ei) Where is your nearest hospital out-patient clinic?.....V75

V76

eii) Have you been there? Yes.....No..... .....V77

if yes: eiii) Why do (did) you go?.....V109

iv) Do you think that it is easy.....to get to the outpatient clinic or is it difficult.....? If difficult: Why is that?.....V110

....

fi) Where is your nearest hospital casualty unit for emergencies?

.....V82

fii) Have you been there? Yes.....No..... .....V83

If yes: fiii) Why was that?.....V84

fiv) Do you think that it is easy.....to get to the casualty unit or is it difficult.....? V111

If difficult: Why is that?..... .....V112

.....

gi) Where is your doctor's surgery?..... ..V63

gii) Is that the nearest surgery to your home? Yes.....No..... V26

giii)During the two weeks ending last Sunday, apart from visits to a hospital, did you talk to a doctor for any reason at all?

Yes.....No..... V113

If yes: a) How many times did you talk to him in those two weeks?.....V114

If no: b) When did you last visit a doctor? In last (week).....

month.....6 months.....year.....more than 1 yr.....never been.....

don't know..... V33

giv) What was the consultation about?.....V115

gv) What did the doctor say was the matter?.....

How did it affect you?.....

gv) Was the doctor your family doctor.....or was he a specialist.....

or some other kind of doctor..... specify.....

gvi) Did you talk to him by telephone.....at your home.....in his surgery

.....or elsewhere?.....V116

gvii)Now just during the last 12 months, that is since this time last year, how many times have you consulted, that is seen professionally your doctor, or his partners, assistant or locum?

not at all.....once.....2-1.....5-10.....10+..... V117

gviii)How do you get to the surgery from home?

walk.....bus.....car.....other.....sees Dr.at home.....never goes.....V64

gix) How long would it take to get there from home? .....mins. V65

If Public Transport: gx) How much is the return fare from home to surgery?

.....p V66

gxi)Would you make a special journey to go to the surgery or can you go while you are out shopping or something?

spec.trip.....spec.trip cos.appointment.....no spec.trip..... V67

gxii)Do you find it easy.....to get to the surgery or do you find it difficult?..... V40

If difficult: Why is that?