

CARAVANS AS HOMES

A "RETROSPECTIVE RECORD SURVEY"

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No accurate information could be obtained about the health of families who live on permanent caravan sites: this is the conclusion of the official report which was given to Parliament recently on the 3,000 permanent caravan sites in Britain (Wilson, 1959). The report says that, though many local authorities are concerned about the ill effects of caravan life, they have not been able to show whether caravan dwellers are in fact less healthy, for such reasons, than the general population. The report also says that the Society of Medical Officers of Health have not felt justified in coming to any firm conclusions on this point, because they are conscious that the detailed and long-term statistics which would be required for such a comparison are not available.

The objects of this paper are: (1) to produce statistical evidence that the health of children who lived on one permanent caravan site was not as good as that of their counterparts from orthodox homes; and (2) to demonstrate briefly the technique of retrospective record analysis which has been developed in this N.H.S. practice over the past 10 years. The principle behind this technique is to have enough complete background information about the "variables" in the make-up of the practice to enable a series of controls (taken from the practice) to be matched in retrospect over the same calendar period with any given series of index cases. The advantage of this technique is that once the initial indexing and organizing of *complete* practice records has been done, much interesting retrospective information which is capable of statistical analysis can be obtained at short notice.

Material and Method

From 1951 to 1959 a permanent caravan site three-quarters of a mile from the town housed some 40 caravans. The field was poorly serviced. Site rentals ranged from 10s. to 20s. per week. Further "van" rentals reached £2 to £3 per week. Many families occupied their own vans. There was a big shifting population but a number of the families with steady occupations lived on the site for several years. These families form the basis of this analysis.

Practice Records.—The following records are kept: (1) All diagnoses made either at a visit or at the surgery are recorded on the patients' notes; (2) all records are filed according to households. (3) the date of registration, the name, and the address of all patients are recorded; (4) the date of birth of all patients is recorded and filed according to year of birth; (5) all records of patients who leave the practice are kept. (Only a copy is sent to the executive council.)

Selection of Material.—All children under 15 who lived on the site for over one year between 1954 and 1957 were ascertained from the practice registration book. All illnesses reported to the doctor by these children were then analysed from the record cards. If the children lived on the site for two or more years this period was included in the analysis. The illness which was reported by 31 caravan children from 18 families has been analysed for a period of 76 patient-years.

Control Families.—These were obtained from the age/sex register of the practice. A routine technique for matching families was followed. The index and control families were matched before analysis was carried out. Control families had to fill certain criteria as follows.

Size.—The control family never exceeded the size of the index family by more than one.

Age.—Control families were excluded unless their age structure corresponded to the index family. The following differences in age groups were allowed: (a) 6 months in children under 1 year; (b) 1 year in children under 10 years; (c) 2 years in children under 15 years.

Period under review.—The control families must have been under the care of the practice for the same calendar period as the index family.

Dwellings.—The control family must have lived in conventional dwellings and not caravans for the whole period under review.

Results

A group of 31 children under 15 years from 18 caravan families were observed for a total of 76 patient-years; and 31 children of similar age from similar-sized families from conventional dwellings were observed for an identical period.

The diseases which were reported in the two series have been analysed and compared (see Table), the diseases being divided into five main groups. The first four groups covered those diseases which caravan life might be expected to aggravate—that is, respiratory disease, enteritis, accidents, and skin sepsis.

Group I: Acute Upper Respiratory Disease.—This group included all incidents of bronchitis, colds, coughs, catarrh, acute otitis media, and tonsillitis. Epidemic influenza was also included because it was difficult to separate diagnostically from the rest of the group. The infectious diseases of childhood were excluded. In the caravan children the average incidence of this type of disease was two and a half times that of the control children (caravan children, 2.2 incidents per year; controls, 0.87 incidents per year) (see Table).

Group II: Acute Gastroenteritis.—In the caravan children the average incidence of this disease was one and a half times that of the control children (caravan children, 0.26 incidents per year; controls, 0.16 incidents per year).

Group III: Accidents and Trauma.—In the caravan children the average incidence of accidents was one and

Analysis of the Two Series

	No. of Families Analysed	No. of Children Observed	No. of Complete Child/Years Analysed	Total Incidents of Disease Reported					Average Yearly (Incidence) Rate per Child				
				Upper Resp. Disease	Ac. Gastro-enteritis	Accidents and Trauma	Skin Sepsis	All Other Disease	Upper Resp. Disease	Ac. Gastro-enteritis	Accidents and Trauma	Skin Sepsis	All Other Disease
				Group I	Group II	Group III	Group IV	Group V	Group I	Group II	Group III	Group IV	Group V
Caravan children ..	18	31	76	167	20	23	43	92	2.2	0.26	0.3	0.57	1.21
Control: „ ..	18	31	76	66	12	14	24	73	0.87	0.16	0.18	0.32	0.96

a half times that of the control group (caravan children, 0.3 incidents per year; controls, 0.18 incidents per year).

Group IV: Skin Sepsis.—This group included nappy rashes, boils, styes, impetigo, and infected wounds. In the caravan children the average incidence of these complaints was nearly twice that of the controls (caravan children, 0.57 incidents per year; controls 0.32 incidents per year).

Group V: All Other Reported Incidents.—This group covered all other illnesses and reasons for attending the doctor, excluding inoculations. In addition to infectious diseases of childhood, a number of less infectious diseases, such as conjunctivitis and oral thrush, were evident. There were small outbreaks of both these latter complaints on the caravan site. The difference in the average incidence of this group of diseases in the two series of children was less marked (caravan children, 1.2 incidents per year; controls, 0.96 incidents per year).

Detailed statistical analysis of the distribution of the individual difference between the 31 pairs of children showed that the differences in groups I, II, III, and IV were statistically significant—that is, they could have occurred by chance less than once in twenty times. In the case of Group I the differences were very highly significant—that is, they could have occurred by chance only once in a thousand times. The differences in group V were not statistically significant.

Discussion

Statistical analysis of these figures shows that the incidence of respiratory and certain other diseases in the caravan children was significantly raised. Other factors beside the "caravan life" may have produced this effect.

Geographical Factors.—The caravanners might have found it easier to contact the doctor. In fact, this was not so. A trip to town or to a telephone from the site was quite an undertaking and involved a muddy walk of half a mile. If this factor had operated in any way it would have tended to reduce the incidence of disease recorded in the caravan children.

Social Factors.—(a) The "social class" constitution of the two groups might have been different. In fact, this was not so, as the range of "class" in this practice is surprisingly small. (b) The caravan life might have attracted less adequate families. This was true for some families, but these never stayed for long. In fact, it required a high standard of efficiency to live on the site for long periods. To confirm this impression an analysis of the parents' health was also carried out. The control parents reported a higher rate of anxiety and "neurotic" diseases. (c) Differences in the age distribution of the parents in the two groups might have led to a different attitude to illness. Although the method of choosing the control families inevitably led to a slightly higher average parental age, the mean difference was small (1 year) and not statistically significant.

Stability of the Two Groups.—There was a big shifting population on the caravan site. The families under observation were stable, but the continual shift of less stable occupants around them undoubtedly introduced infectious diseases. This factor probably operates on any caravan site.

It is difficult to escape the conclusion that the greater incidence of disease in the caravan children should be attributed to the "caravan life" itself. Several factors may have been responsible: (1) Inadequate washing and baths. All water had to be carried a considerable distance and was in short supply even in the cleanest caravans. This factor may have been largely responsible for the increased incidence of skin sepsis and acute enteritis. (2) Close contact of families and shortage of space. This factor was probably responsible for the increased accident rate. (3) The excessive and sudden differences in temperature (and humidity) which are so marked in caravan life. This factor, in my view, was responsible for the relatively greater incidence of respiratory diseases in the caravan children.

Summary and Conclusion

The health of 31 children from 18 families who lived on a permanent caravan site has been compared over an identical calendar period with 31 children from 18 control families who lived in conventional dwellings. The control families were matched for age and composition.

The caravan children suffered from two and a half times more respiratory illness than the controls. This difference was found to be statistically very highly significant.

A significant increase in the incidence of enteritis, accidents, and skin sepsis was also observed.

The possible reasons for these findings are discussed.

The technique of retrospective record analysis which has been developed in this N.H.S. practice is illustrated.

The advantages of this technique are: (1) It is quick. (2) Retrospective controls are immediately available. (3) It depends on records made at the time and not on patients' memories, as is the case with many retrospective surveys. (4) There is no observer bias, because at the time of recording the observer is unaware of the research projects for which the record may be used.

REFERENCE

Wilson, Sir Arton (1959). *Caravans as Homes*, paras. 257, 258. H.M.S.O., London.

Recently issued statistical data on addiction in the United Kingdom show that 130 addicts were added to the official registers during 1959; of these, 117 were new addicts and 13 recidivists. The names of 118 addicts were dropped from the register: 77 were considered cured, 40 died, one disappeared. The total number of known addicts was 454. Analysis according to origin of addiction showed: therapeutic treatment, 344; other, 98; unknown, 12. Sixty-eight of the known addicts were in the medical profession or allied groups. No other occupational groups were of significance, but a small number of jazz musicians are known addicts. Analysis according to age and sex showed the following figures—age in brackets: males, 31 (20–34); 44 (35–49); 108 (50+); 13 (unknown); females, 19 (20–34); 48 (35–49); 170 (50+); 21 (unknown). There were no addicts under 20 years in these totals of 196 men and 288 women. The highest addiction figures were 172 addicts for morphine, 97 (pethidine), 40 (diacetylmorphine alone), 40 (methadone); 21 (phenadoxone). (*Report to the United Nations by Her Majesty's Government in the United Kingdom of Great Britain and Northern Ireland on the Working of the International Treaties on Narcotic Drugs for 1959.*)