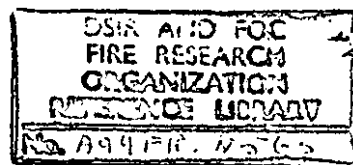


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DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

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FIRE OFFICES' COMMITTEE

JOINT FIRE RESEARCH ORGANIZATION

FIRE RESEARCH NOTE

NO. 563

FIRE IN OLD PEOPLE'S HOMES, 1961-2

by

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July, 1964.

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SUMMARY

The numbers of fires in old people's homes, estimated from a 1-in-2 sample of all reports of fire attended by fire brigades, were 62 in 1961 and 82 in 1962. Of these, 43 per cent were attributable to matches, smokers' materials and space heating appliances. The ignition of bedding or upholstery accounted for 21 incidents of fire in the sample, i.e. 29 per cent of the fires.

In nearly one quarter of the incidents there was a late call to the fire brigade, most of them for fires which occurred between 6 a.m. and noon. There was no evidence of any definite peak period for fire incidence during the day.

Three old people received fatal injuries in fires in the 1-in-2 sample of reports in 1962. There was also 1 non-fatal casualty in 1961, when a member of staff was injured in a cooking accident.

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Introduction

The annual fire incidence in old people's homes is small, but as some of the occupants may be crippled or otherwise restricted in their movements the results could be more serious than those of similar fires in other occupancies.

In 1-in-2 samples of reports of all fires attended by fire brigades in the United Kingdom there were 31 in old people's homes in 1961 and 41 in 1962. These represent estimated annual frequencies of 62 in 1961 and 82 in 1962.

As frequencies were small, the fires observed in the samples in 1961 and 1962 were added together in some of the analyses, giving a total of 72 reports to be analysed.

Times of year and causes of fires

Table 1: Time of year of fires

Months	1961	1962	TOTAL
January, February, March	8	17	25
April, May, June	8	7	15
July, August, September	7	6	13
October, November, December	8	11	19
TOTAL	31	41	72

Table 1 shows the pattern of frequencies of fires in relation to year and time of the year. In 1961 there was no apparent difference between 3 monthly frequencies during the year, but in 1962 more fires occurred in the winter months. The figures suggest that this may have been the result of severe winter weather and the consequent use of additional space heating; it could, however, have happened by chance, the numbers of fires concerned being too small to draw any definite conclusions. This table is illustrated graphically in Fig. 1.

Table 2: Causes of fires

Cause of fire	1961	1962	TOTAL
Cooking appliances (all fuels)	5	2	7
Space heating (all fuels)	5	7	12
Chimney, flue, boiler	2	3	5
Electrical appliances (not cooking or space heating)	-	8	8
Other appliances (not specified above)	4	3	7
Matches, smokers' materials	8	11	19
Doubtful, malicious ignition (including children with matches)	4	1	5
Unknown	3	6	9
TOTAL	31	41	72

Table 3: Cause in relation to the material ignited first

Cause of fire	Material ignited first							TOTAL
	Bedding, upholstery, clothing	Structure	Gases, vapours	Fat (cooking)	Wiring	Other (including rubbish)	Unknown	
Cooking appliances (all fuels)	-	-	1	6	-	-	-	7
Space heating (all fuels)	5	5	1	-	-	1	-	12
Chimney, flue, boiler	-	3	-	1	-	1	-	5
Electrical apparatus (not cooking or space heating)	2	-	-	-	6	-	-	8
Other apparatus (not specified above)	-	3	3	-	-	1	-	7
Matches, smokers' materials	13	-	-	-	-	6	-	19
Doubtful, malicious ignition (including children with matches)	1	-	-	-	-	2	2	5
Unknown	3	-	-	-	-	3	3	9
TOTAL	24	11	5	7	6	14	5	72

The causes of fires are shown in Table 2. The principal causes, matches and smokers' materials, and space heating accounted for 43 per cent of the fires. One-eighth of the fires were attributed to unknown causes.

Table 3 shows the causes in relation to the materials ignited first. It appears that the chief danger was from matches and smokers' materials igniting bedding and upholstery.

The need for careful disposal of smokers' materials cannot be over-emphasized, and this may require a high standard of supervision where elderly people are concerned. Although none of the fatal casualties observed in the 72 fires examined was attributed to this cause, it is a potential fatality risk⁽¹⁾. In 5 of the 12 fires attributed to space heating, structural materials were ignited first and in another 5, bedding, upholstery or clothing were ignited.

Short circuits in electrical wiring and incidents involving cooking fats each gave rise to 6 fires.

Extent of fire, time of day

Table 4: Extent of fires

Fire confined to	No. of fires
Appliance of origin	16
Room of origin	42
Casualty	1
Shed or outbuilding	3
Floor of origin	5
Lift shaft	1
Roof or roof members	3
Building of origin	1
TOTAL	72

It can be seen from Table 4 that most of the fires were of small dimensions, 62 of them, i.e. 86 per cent, were confined to the room of origin or to small outdoor sheds.

Table 5: Times of discovery of fires

Times of discovery*	Type of call		TOTAL
	Non-late call	Late call	
Midnight - 2.59 a.m.	2	1	3
3.00 a.m. - 5.59 a.m.	1	-	1
6.00 a.m. - 8.59 a.m.	6	6	12
9.00 a.m. - 11.59 a.m.	6	5	11
Noon - 2.59 p.m.	9	2	11
3.00 p.m. - 5.59 p.m.	16	-	16
6.00 p.m. - 8.59 p.m.	10	1	11
9.00 p.m. - 11.59 p.m.	5	2	7
TOTAL	55	17	72

*The times are reported to the nearest minute

The pattern of fires according to time of day is shown in Table 5 and Fig 2. It can be seen, that the fires tended to occur fairly evenly during the daytime with possibly a slight peak in the late afternoon, but the numbers are too small to draw any definite conclusion.

In about a quarter of the incidents the fire brigade was called after the fire had been extinguished (i.e. late call). This is a much higher proportion than that for fires in general, the fire brigades normally receive late calls to only about one-fortieth of the fires⁽²⁾ attended. It may be that when elderly and possibly infirm people are at risk, the staff call the fire brigade to inspect the premises as a routine precaution after they had themselves extinguished the fire. In only one instance of a late call did the fire spread beyond the room of origin.

At 4 old people's homes there was more than 1 fire observed in the 1-in-2 samples of reports examined during the two year period. At one of these homes, arson was suspected, since two fires of a doubtful origin were observed in the sample within a week.

Casualties

From only 72 reports of fire it was difficult to obtain much information on casualties; more detailed surveys on fatalities have however been made⁽¹⁾⁽³⁾.

In the 1-in-2 sample of reports, there was one non-fatal casualty in 1961. This was a female aged 32 who was injured in a cooking accident. There were no fatal casualties.

In 1962 there were three fatalities:-

- (a) One female, aged 75, in a deck chair, cause unknown.
- (b) One male, aged 85, fell onto electric fire.
- (c) One female, aged 84, fell onto an unguarded gas fire - death in this instance was recorded as being due to natural causes - hypostatic pneumonia.

There were no non-fatal casualties recorded in the 1-in-2 sample of reports for 1962.

At least one fatality resulted from an unguarded fire. The Fireguards Act, 1952, made it an offence to make or sell a new gas, electric or oil fire that was not fitted with a proper guard, but some older space heating appliances may not have been modified, and, as a result, clothing can come into contact with such appliances.

Conclusions

The principal causes of fires appear to be smokers' materials and heating appliances which account for 43 per cent of the fires in old people's homes in 1961 and 1962. The ignition of bedding, upholstery and chairs by carelessly discarded smoker's materials was responsible for 18 per cent of the incidents.

Most of the fires were small, 86 per cent not spreading beyond the room of origin. The practice of calling the fire brigade, even when a fire has already been extinguished, is to be commended.

From the data examined there is no evidence of a definite peak period for fire frequency, fires occur at about the same frequencies during the daytime period, 6 a.m. - 9 p.m.

Four out of the 72 incidents involved casualties, three of which were fatal.

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2. United Kingdom Fire Statistics 1962 Department of Scientific and Industrial Research. London 1964. H.M. Stationery Office.
3. WOOLFE, H. Deaths due to fire in 1960. F.R. Note No. 500.

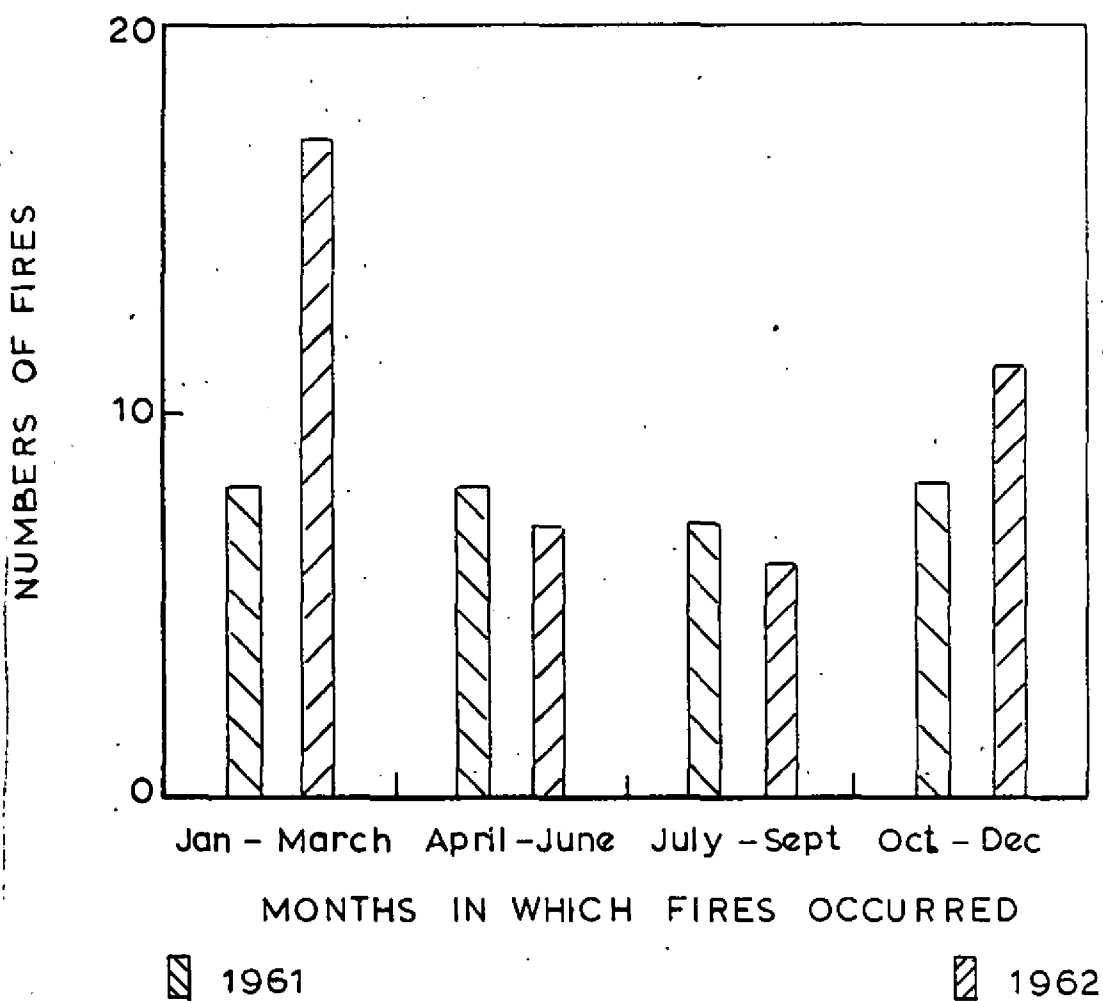


FIG.1. TIME OF YEAR OF FIRES IN OLD PEOPLES HOMES

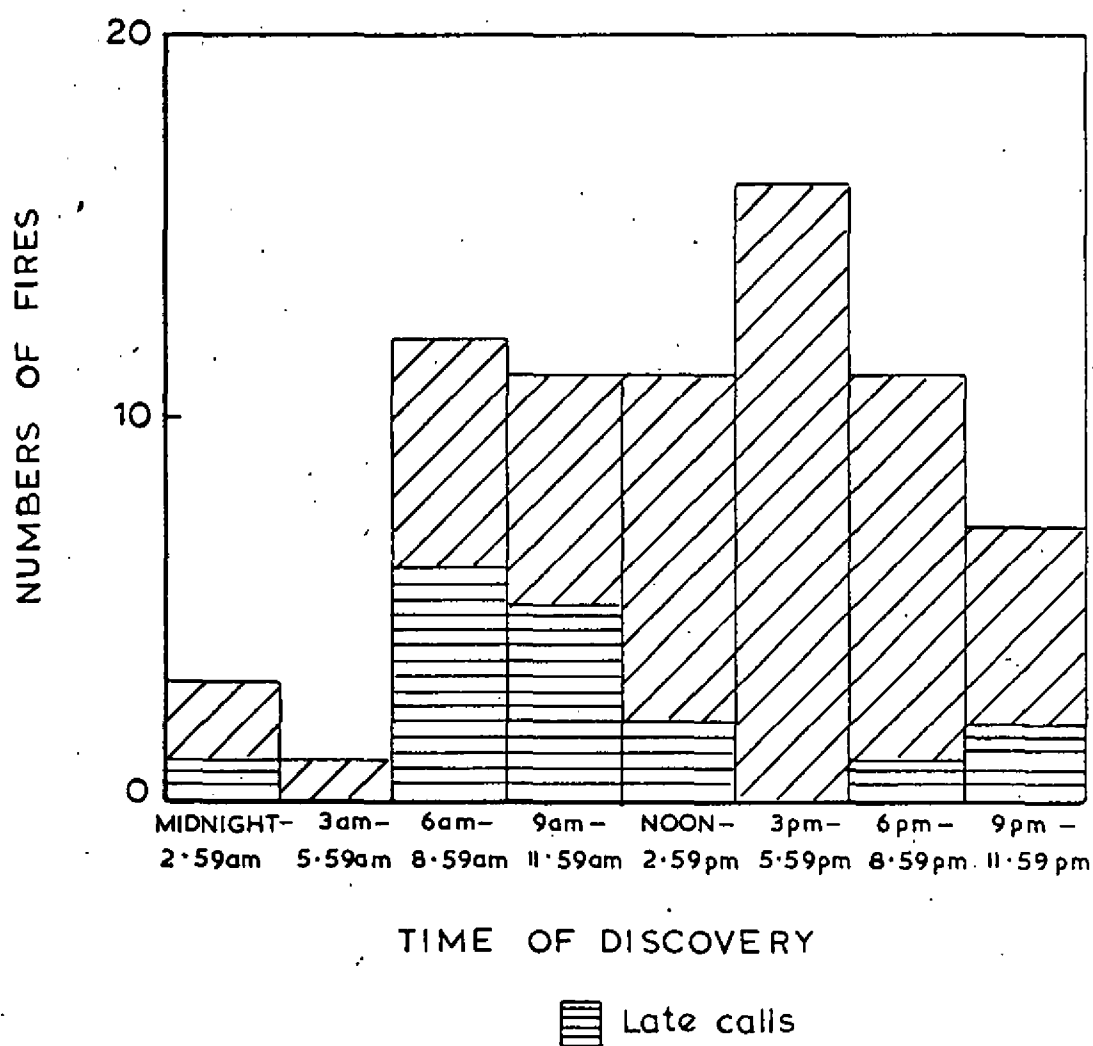


FIG.2. TIMES OF DISCOVERY OF FIRES

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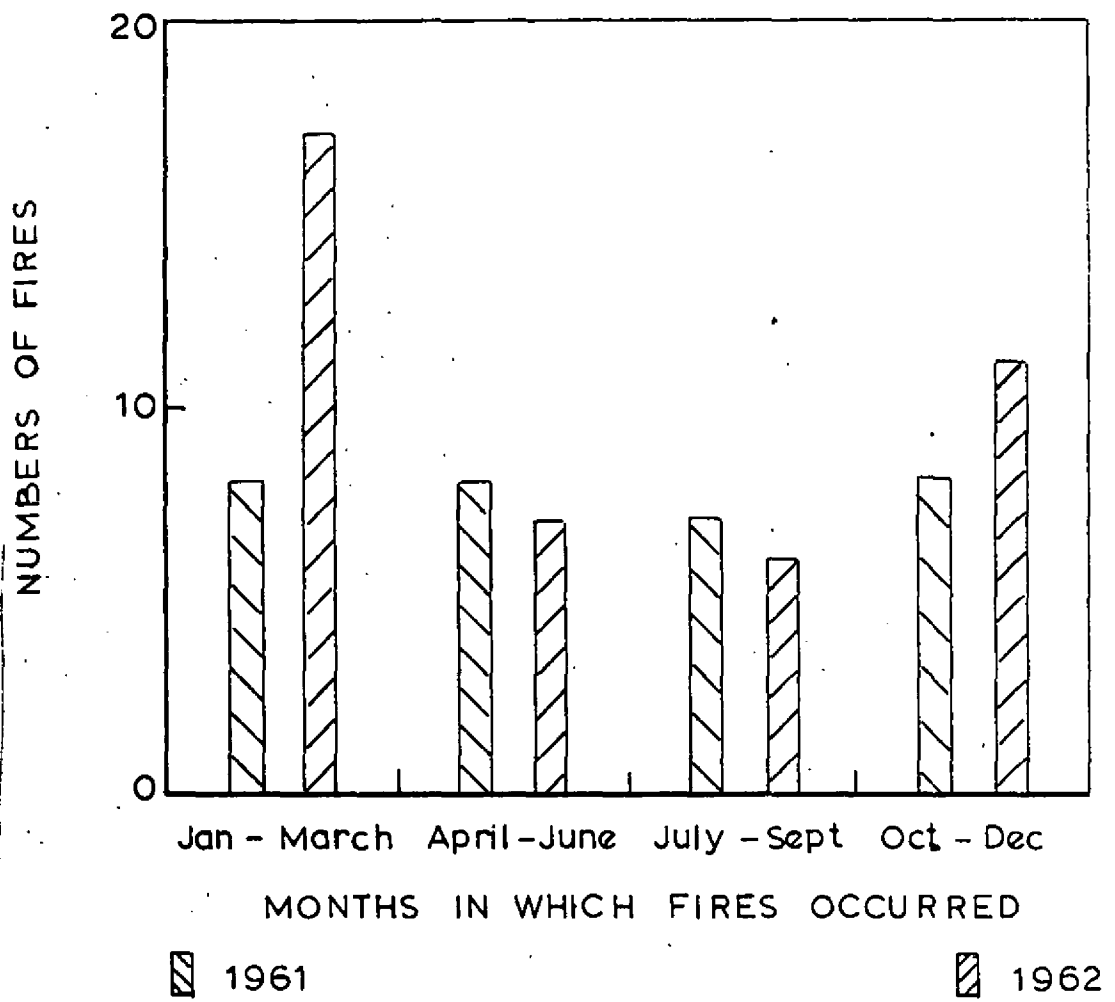


FIG.1. TIME OF YEAR OF FIRES IN OLD PEOPLES HOMES

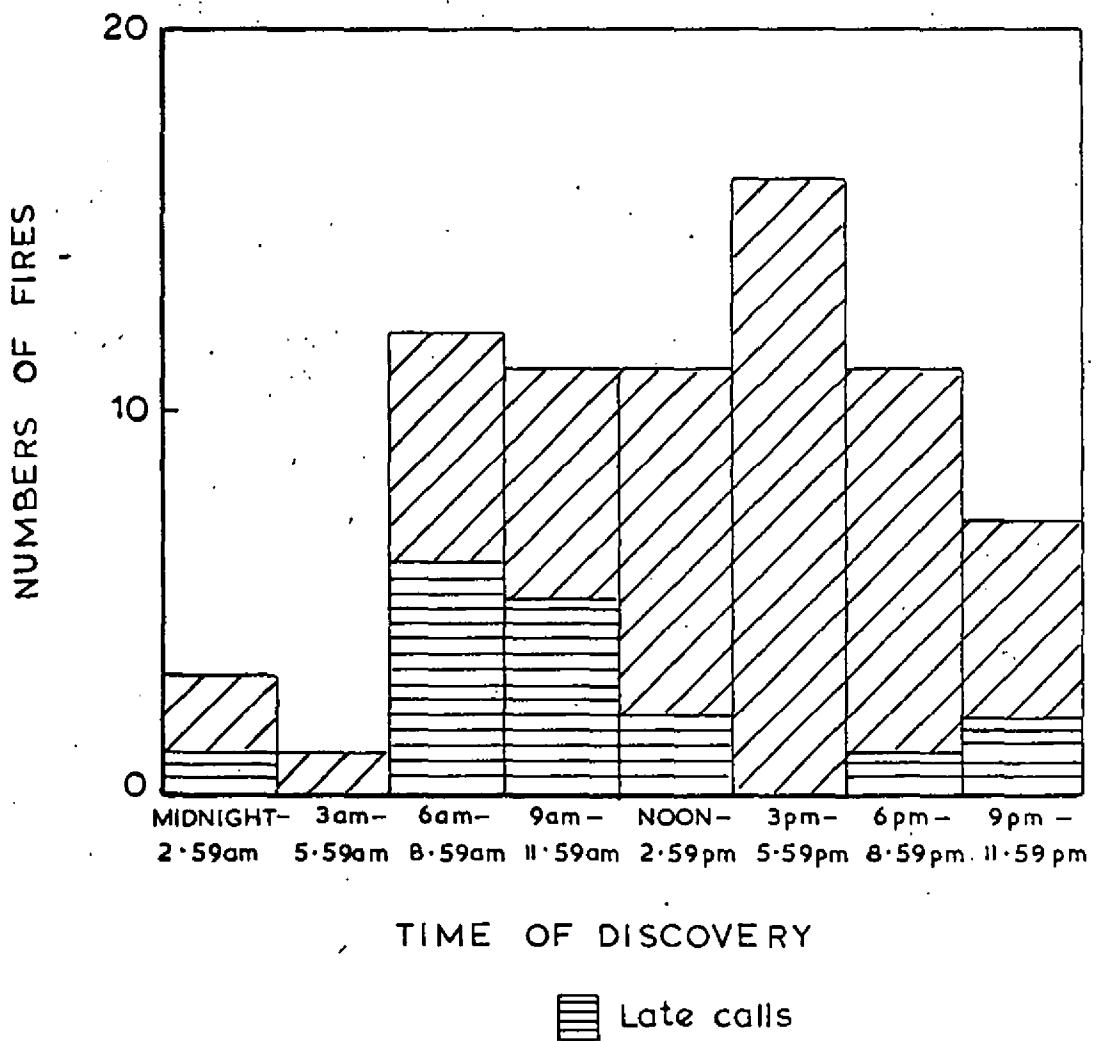


FIG.2. TIMES OF DISCOVERY OF FIRES