

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH AND FIRE OFFICES' COMMITTEE  
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FIRES IN POST-WAR FLATS AND MAISONNETTES  
IN LONDON - 1960

by

H. Woolfe and J. F. Fry

Summary

An analysis has been made of fires which occurred in blocks of London flats three or more storeys high, during 1960.

It was found that the fire incidence in high flats, in the London area was not significantly different from that for dwellings in general, in the United Kingdom.

The largest cause of fires in these high flats was due to careless disposal of ashes and soot in dust and refuse chutes.

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Boreham Wood,  
Herts.

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Introduction

In a previous paper<sup>(1)</sup>, an analysis was made of fires which occurred in blocks of flats of six or more storeys in Great Britain during 1956. The note emphasized that the statistics could be really informative only if rates of incidence could be calculated, but that no data relating to the numbers of flats at risk were then available.

Since the appearance of the above paper, it has been possible to obtain statistics for the numbers of flats and maisonnettes in blocks of three or more storeys, which were erected within the County of London between 1st January, 1946 and 31st December, 1960 (except for private development in the City of Westminster and the Borough of Wandsworth). The purpose of this note is, therefore, to analyse the numbers of fires in 1960 which occurred in these dwellings in the county of London, having regard especially to the numbers at risk.

Fifty reports of fires were examined; 49 dealt with fires in post-war flats, and 1 with a fire in a maisonnette. These reports were those which appeared in the 1-in-4 sample of all Fire Brigade reports selected for detailed study during 1960 and for the purpose of calculating incidence rates, the numbers have been multiplied by four. For other purposes the figures in the sample alone have been used.

Incidence rates

The estimated incidence rates for fires in post-war flats and maisonnettes of different heights are given in Table 1. There is no statistically significant difference between the rates shown.

Table 1 - Incidence Rates

Height of Building	Number of flats and maisonnettes at risk in 1960	Estimated Nos. of fires during 1960	Estimated Incidence rate per 10,000 at risk per ann.
3 to 5 storeys	72 798	132	18.1
6 to 8 storeys	21 385	48	22.4
9 storeys and over	12 004	20	16.7
Total	106 187	200	18.8

The overall fire incidence rate in 1959 for all dwellings (both pre-war and post-war) in England and Wales was approximately 19 per 10 000 at risk per annum. There thus appears to be little difference between the fire incidence rates for dwellings as a whole, and that for London post-war flats in blocks of three or more storeys.

## Causes of Fire

The causes of fires in London post-war flats and maisonettes in 1960 (other than those in privately-built flats in Westminster and Wandsworth) are shown in Table 2 together with comparable information on all houses, flats and maisonettes in England and Wales. The largest single source of ignition in the fires in the London flats was "ashes and soot". These fires constituted 34 per cent of the total and were all due to careless disposal in dust and refuse chutes. The next largest group of fires was that caused by children with matches which constituted a further 14 per cent of the reports examined. The pattern thus differs from that in fires in dwellings generally in which "fire in grate" figures prominently and 29 per cent of the fires were due to miscellaneous causes not recorded in the reports on tall blocks of flats in London.

Table 2 - Causes of fires in 1960

Causes of fire	London Post-war flats and maisonettes		England and Wales. All houses, flats and maisonettes	
	No.	per cent	No.	per cent
Ashes and soot	17	34	516	2.0
Electric cooker	1	2	1 936	7.5
fire, heater, radiator	1	2	816	3.2
refrigerator	1	2	108	0.4
lead to apparatus	1	2	200	0.8
wireless	1	2	256	1.0
other apparatus	2	4	960	3.7
Fire in grate	1	2	3 388	13.1
Gas (town) burner, jet, ring	2	4	108	0.4
cooker	3	6	1 264	4.9
other apparatus	1	2	232	0.9
Matches, children with	7	14	2 804	10.9
Oil stove	2	4	2 056	8.0
Smoking materials	5	10	2 240	8.7
Other known causes	1	2	7 500	29.0
Unknown	4	8	1 436	5.6
<b>Total</b>	<b>50</b>		<b>25 820</b>	

## Casualties

In only three of the reports examined were any casualties recorded, none of them fatal. In one instance, burns to right leg and foot were sustained. In another, the casualty suffered from shock, and the third incident was one in which burns to the face and arms occurred. The causes of these fires, together with other details are shown in Table 3.

An analysis of fire casualties in dwellings in Great Britain during 1956<sup>(2)</sup> showed that casualties occurred in 7.5 per cent of the fire incidents attended by Brigades in dwellings in that year and the proportion of casualty incidents in the London flats and maisonettes does not differ significantly from this level. It is worthy of note that none of the three casualties reported in London flats and maisonettes could in any way be attributed to the fact that the incidents occurred in tall buildings.

Table 3 - Casualties

Age of Casualty	Sex	Cause of fire	Injuries Sustained
52	Female	Careless disposal of lighted cigarette end ignited bed and bedding.	Burns to right leg and foot.
32	Female	Shorting of defective electric wiring set fire to insulation and to plywood kitchen sink unit.	Shock.
34	Male	Heat from short circuiting of electrical mains set fire to insulation.	Burns to arms and face.

Damage and compartment of origin.

All of the 50 fire reports examined indicated that there was no spread of fire beyond the compartment or room of origin and 8 of the fires were extinguished before the arrival of the Fire Brigade. An analysis of the causes of fires in all dwellings in Great Britain in 1956<sup>(3)</sup> showed that about 7 per cent of the fires attended by Brigades spread beyond the room in which they originated, so that the record in the London flats and maisonettes appears to have been rather better than that of dwellings in general.

The points of origin of the 50 fires in the London flats and maisonettes are shown in Table 4 from which it is apparent that rubbish chutes and bins were the seat of 21 fires; all of these were confined to the chutes or bins

Table 4

Location of fire	No. of fires
Bedroom	3
Living room	3
Kitchen	10
Passage	2
Landing	1
Lift shaft	1
Drying room, wash house	2
Store room, pram store	2
Rubbish chute, refuse room	21
Undefined room	5
Total	50

in which they started. Twenty-seven of the fires (including the rubbish fires) were in non-residential parts of the buildings. Of the residential rooms kitchens appeared more frequently than others as the rooms in which fires originated.

#### Conclusions

From the evidence provided by reports of fires in London post-war flats and maisonettes in blocks of 3 or more storeys it appears that the rate of incidence of fires does not differ significantly from that in dwellings in general, although the pattern of causes is somewhat different. Careless disposal of hot or smouldering rubbish was the most frequent cause of fire in the reports examined, but with adequately fire-resistant dust chutes and refuse containers these fires should not present a major hazard to life even if they cannot be eliminated.

Because of the small number of reports examined it is not possible to say with any certainty that the chance of fire spreading in these flats and maisonettes is less than that in dwellings in general although the figures suggest that may be so.

The question of rescue or escape by emergency means did not arise in any of the fires reported so that there was no evidence as to the adequacy or inadequacy of means of escape from fire.

#### References

- (1) SAVAGE, N. Fires in dwellings of six or more storeys in 1956. Joint Fire Research Organization F.R. Note No. 422, 1960.
- (2) FIRTH, J. M. Fire casualties in dwellings in Great Britain in 1956. Joint Fire Research Organization F.R. Note No. 477, 1961.
- (3) WESTON, M. A. and FRY, J. F. The causes of fires in dwellings. Joint Fire Research Organization F.R. Note No. 499, 1962.