

NOT PROTECTED



“An Excellent Authority”

Analysis of Fatalities in Accidental Dwelling Fires between 1st April 2012 and 31st March 2013

**TO BE PRESENTED TO:
Authority
Strategic Management Group**

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**STRATEGIC PLANNING DIRECTORATE
PREVENTION & PROTECTION**

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Sign-Off List

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Distribution List

Name	Position	I / R
Strategic Management Group		
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Related Documents

Reference No.	Title	Author	Version & Date
1	Analysis of Fatalities in Accidental Dwelling Fires between 1 st April 2011 and 31st March 2012	M Rasdale	V1.2 03/05/2012
2	Customer Insight Risk Profile – Knowledge Transfer Partnership-Risk assessment Machine Methodology	E Higgins	13/09/2010
3	Analysis of Fatalities in Accidental Dwelling Fires between 2004/05 and 2012/13	J Fielding	

Ownership

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If No please state reason why:

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1. Agreement

For the purpose of this report the following agreement was made between the client and the Strategic Planning Directorate.

This work was requested by Deputy Chief Fire Officer Garrigan and received on 01/04/2013.

The Manager¹ has approved this report/ piece of work can be undertaken by the Strategic Planning Directorate.

If the scope of the work changes, authorisation must be again obtained and would be noted within the version control document sheet.

It was agreed that this report would be produced in draft format by 17th April 2013, and would be sent electronically to the Director of Strategic Planning Directorate and Client for comment.

The Manager / Client agreed that their comments would be received back by 17th April 2013.

The final report, which will always be in PDF format, would be produced by April 2013, subject to receiving comments.

¹ Deb Appleton

2. Summary

The purpose of this report is to provide an analysis into the circumstances of fatalities in Accidental Dwelling Fires across Merseyside during the financial year 2012/13.

In summary the findings within this report are as follows:

- During 2012/13 there were 6 fatalities in accidental dwelling fires in Merseyside, 1 more than in 2011/12.
- Concerning locations of Accidental Dwelling Fire Fatalities there have been: 0 incidents in Knowsley, 0 in Liverpool, 1 in Sefton, 2 in St Helens and 3 in Wirral.
- Of the 6 fatalities; 2 were related to inappropriate use of candles, 2 were related to careless use of heating appliances, 1 was related to cooking equipment with the final fatality being linked to smoking materials.
- During 2012/13, 3 of the fatalities occurred on a Monday.
- During 2012/13, 67% (4) of fatalities were in the top 40% most deprived areas of Merseyside
- Regarding fire detection systems, all 6 properties had received Home Fire Safety Checks where smoke alarms had been fitted and operated during the incident.

3. Introduction

This report analyses fire related fatalities across Merseyside during the fiscal year 2012/13 (April 1st – March 31st). The primary focus of this report reviews fatalities that occurred as a result of Accidental Dwelling Fires (ADF).

This report which contains information relating to lifestyles of people that have regrettably died in a fire, as well as other information, which will support the on-going and proactive actions of the staff involved in Prevention and Protection and their actions to reduce the risk of fire.

4. Case Studies

The following section outlines cases where people have died as a result of an Accidental Dwelling Fire. Merseyside Fire & Rescue Service has continued to play a significant role in reducing the number of fatalities caused by fire and works closely with partner agencies to ensure that measures have been put in place to reduce the risks associated with fire.

At the time of writing this report two of the fatalities from Accidental Dwelling Fires were confirmed by the coroner with the remaining four still pending confirmation.

Case 1: Inquest Complete - Wirral - 20/05/2012

The deceased was a 41 year old male, who was the sole inhabitant of the flat in which he lived; the deceased was alone at the time of the incident. At 12:18 hours, Merseyside Fire and Rescue Service received the late call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. The fire occurred within the kitchenette adjoining the living room where the deceased was found in situ. The suspected cause of the fire was through inappropriate use of cooking equipment.

Case 2: Inquest Complete- St Helens - 11/07/2012

The deceased was a 52 year old male, who cohabited within the bungalow in which he lived. At 21:09 hours, Merseyside Fire and Rescue Service received the call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. Evidence was found that alcohol had been consumed preceding the incident. The fire occurred within the bedroom where the deceased was found in situ. The suspected cause of the fire was through careless use of candles.

Case 3: Inquest Pending- Wirral- 21/01/2013

The deceased was a 76 year old male, who was the sole inhabitant of the semi-detached dwelling in which he lived; the deceased was alone at the time of the incident. At 11:03 hours, Merseyside Fire and Rescue Service received the call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. The fire occurred within the living room where the deceased was found in situ. The suspected cause of the fire was through inappropriate use of candles, which had been used as a source of both heat and light within the property.

Case 4: Inquest Pending- St Helens- 25/01/2013

The deceased was a 46 year old female, who was the sole inhabitant of the semi-detached dwelling in which she lived; the deceased was alone at the time of the incident. At 21:31 hours, Merseyside Fire and Rescue Service received the call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. Evidence was found that alcohol had been consumed preceding the incident. The fire occurred within the living room; where the victim often slept. The suspected cause of the fire was through careless use of a heating appliance where bedding materials which were placed too close to the heater had ignited.

Case 5: Inquest Pending- Sefton- 04/02/2013

The deceased was a 68 year old male, who was the sole inhabitant of the terraced property in which he lived; the deceased was alone at the time of the incident. At 08:03 hours, Merseyside Fire and Rescue Service received the call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. Evidence was found that alcohol had been consumed preceding the incident. The fire occurred within the living room where the deceased was found in situ. The suspected cause of the fire was through careless use of a heating appliance, there was evidence of high fire loading within the property and combustible materials had come into contact with the heating appliance. The victim was known to Social Services and had a carer.

Case 6: Inquest Pending- Wirral- 25/02/2013

The deceased was a 80 year old female, who was the sole inhabitant of the semi-detached dwelling in which she lived; the deceased was alone at the time of the incident. At 17:55 hours, Merseyside Fire and Rescue Service received the call to attend the incident. The property had previously received a Home Fire Safety Check (HFSC). Fire detection equipment was found to be operational following the incident. The fire occurred within the living room, with the victim found in the bedroom on the floor above. At the time of the incident the victim was rescued alive, though succumbing to injuries later. The suspected cause of the fire was through smoking materials. The victim was known to Social Services and had a carer.

5. Methodology

This research was undertaken initially by analysing the data derived from the databases held and managed by the MFRS Incident Investigation Team (IIT).

Fatalities in Accidental Dwelling Fires were originally reported under the Best Value Performance Indicator 143(ii). Since 2008 this performance indicator has become defunct at a national level; however Merseyside Fire and Rescue still measure this level of performance as Local Performance Indicator 45. Qualification for this performance indicator is decided by members of Merseyside Fire and Rescue Service Incident Investigation Team (IIT) and the coroner. Data within this report is still awaiting coroner agreement and as such some figures are subject to change.

Population totals used in this report were obtained from the Office of National Statistics (ONS). The software used to complete the analysis, was Microsoft Office Excel 2010 and MapInfo Professional 11.0 for filtering and mapping the data.

Customer Insight Community Profile² (developed in conjunction with Liverpool John Moores University) data and IMD 2010 (CLG) were also used for Socio Demographic Analysis.

² Please note: at the time of writing this report the Customer Insight Community Profiles are at a Pilot Stage, with a successful pilot taking place in the Wirral. The Community Profiles are currently live in both Liverpool and Wirral districts. The Customer Insight Community Profiles uses 130 sourced datasets (both local and national) aggregated to Output Area geography. The system analyses these sources and collates the information into ten risk based profiles.

6. Results

6.1 Accidental Dwelling Fires

6.1.1 Retrospective

Chart 1: Fatalities in Accidental Dwelling Fires over the past 5 fiscal years.

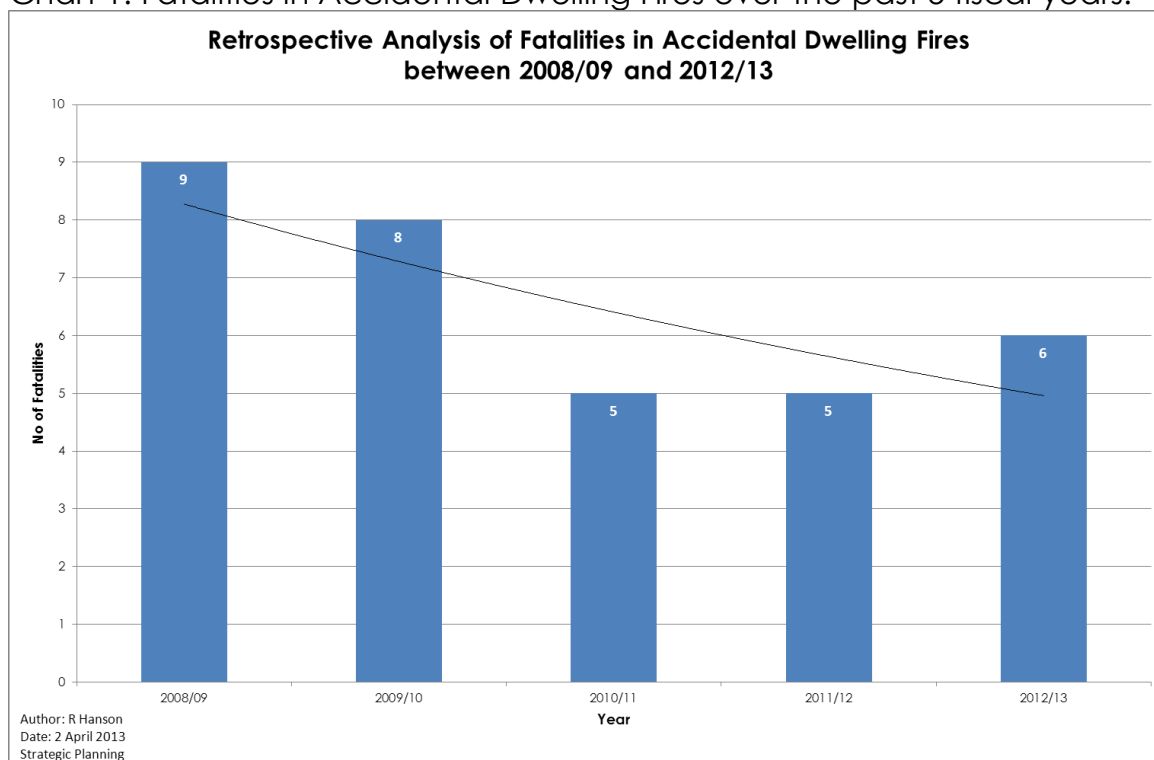


Chart 1 identifies that in 2012/13 there was an increase in the number of fatalities in Accidental Dwelling Fires from 5 to 6, (20%). Overall, since 2008/09 the number of Accidental Dwelling Fire fatalities has decreased from 9, a reduction of 33%.

Table 1: Fatalities in Accidental Dwelling Fires since 2008/09, by District and Year.

District	2008/09	2009/10	2010/11	2011/12	2012/13
Knowsley	0	2	1	0	0
Liverpool	5	1	1	2	0
Sefton	2	1	0	1	1
St Helens	0	1	2	0	2
Wirral	2	3	1	2	3
Total	9	8	5	5	6

Table 1 provides a breakdown of fire deaths in Accidental Dwelling Fires by district. Given the small numbers of fire deaths; analysis is limited, however there has been a particularly noteworthy reduction in deaths in Liverpool. Liverpool has witnessed a decrease from 5 deaths in 2008/09 to 0 in 2012/13.

During 2012/13, there have been increases in Wirral and St Helens of 1 and 2 fatalities, respectively.

Knowsley had 0 fatalities from Accidental Dwelling Fires, the same as in 2011/12. Sefton had the same as the previous year with 1 overall.

6.1.2 Spatial Analysis of Accidental Dwelling Fire Fatalities

Table 2: Accidental Dwelling Fire Fatalities in 2012/13, by District, Ward & Population

District	Ward	No of Fatalities	District Population	Incidents per 100,000 population
Knowsley	-	0	145,893	0
Liverpool	-	0	466,415	0
Sefton	Linacre	1	273,790	0.37
St Helens	Earlestown	1	175,308	1.14
	Newton	1		
Wirral	Birkenhead and Tranmere	1	319,783	0.94
	Eastham	1		
	Greasby Frankby and Irby	1		
Total		6	1,381,189	0.43

Table 2 provides a breakdown of fatalities by district and ward. Wirral witnessed the greatest number of fire deaths with 3 incidents, 0.94 deaths per 100,000 population.

On a head of population basis, St Helens witnessed the greatest number of fatalities 1.14 per 100,000 population. Sefton saw 0.37 fatalities per 100,000 population.

Concerning ward breakdown there are no repeat wards for incidents and little pattern geographically, though the wards of Earlestown and Newton in St Helens do neighbour each other.

6.1.3 Analysis of fatalities by Deprivation

Chart 2: Fatalities from Accidental Dwelling Fires in 2012/13 in relation to Indices of Multiple Deprivation (IMD) 2010

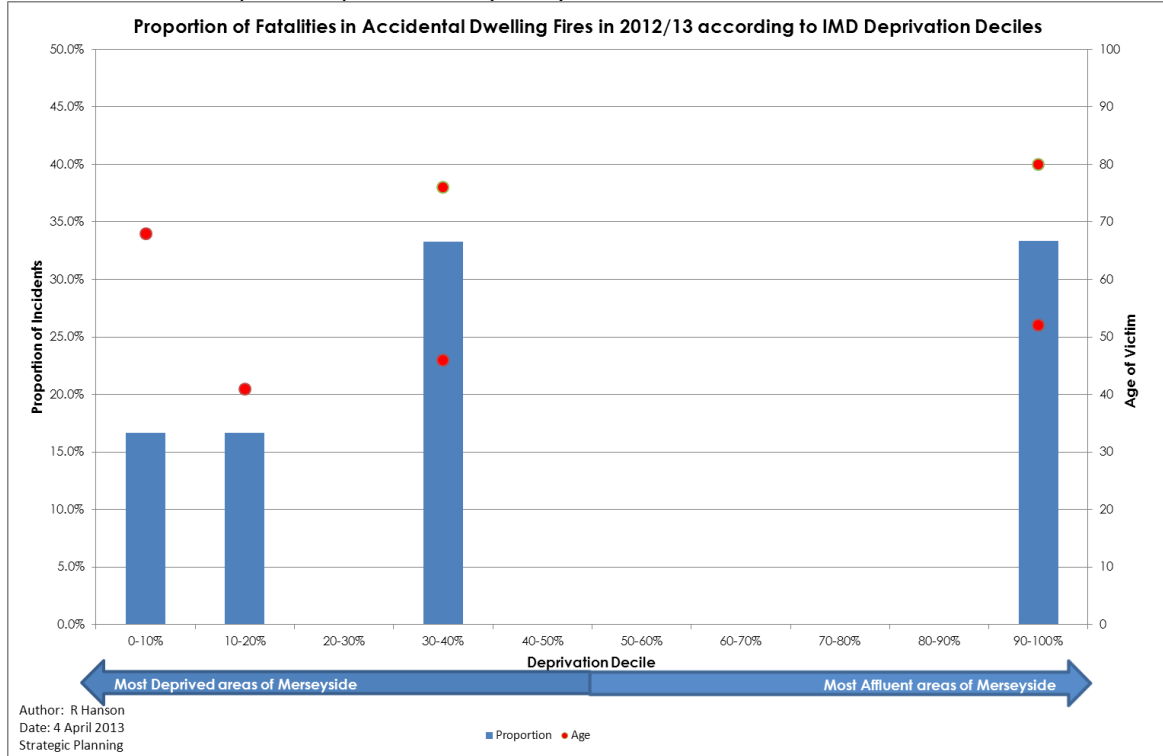


Chart 2 indicates that the majority of Accidental Dwelling Fire Fatalities occurred in areas with high deprivation levels. Overall, 67% of fatalities occurred within the top 40% most deprived areas whereas 33% occurred in the top 10% most affluent areas (between 90-100%).

Half of the Accidental Dwelling Fire Fatalities occurred in the age range of 65 to 84 years within the 0-10%, 30-40% and 90-100% deciles. The fatality which occurred in the most deprived area of Merseyside (0-10%) was within the 65-69 age group. The two fatalities in the most affluent areas of Merseyside (90-100%) were in the 50-54 and 80-84 age ranges.

It should be taken into account that the dataset for fire fatalities is very limited; therefore it is difficult to draw any final conclusions from the dataset.³

³ Please refer to the 9 year analysis report as referred to in Related Documents for a more contextualised analysis.

6.1.4 Analysis using Customer Insight Community Profiles

Table 3: Customer Insight Community Profiles of Accidental Dwelling Fire Fatalities⁴ (with age bands)

Customer Insight Profile Description	Deprivation Decile	Age Band
1 - Wealthy over 50 population living in semi-rural locations	-	-
2 - Wealthy retirees	-	-
3 - Middle income residents living in privately owned properties	30-40%	75-79
	90-100%	50-54
4 - Average income older residents	90-100%	80-84
5 - Students living in city centre locations	-	-
6 - Young families living in privately owned semi-detached homes	-	-
7 - Young families with high benefit need	10-20%	40-44
	30-40%	45-49
8 - Residents living in social housing with high need for benefits	-	-
9 - Transient population living in poor quality housing	-	-
10 - Younger, urban population living in high levels of deprivation	0-10%	65-69

Table 3 provides an indication as to what type of: lifestyle; environment, background and local community the deceased represent. Based on the Customer Insight Community Profiles the above table approximately matches the findings from the deprivation analysis (within Chart 2); with 2 fatalities in segmentation “7 – *Young families with high benefit need*” and 2 fatalities within segmentation “3 - *Middle income residents living in privately owned properties*”.

The 2 fatalities in segmentation “7 – *Young families with high benefit need*” fall into the top 40% most deprived areas of Merseyside. One fatality in the band “3 - *Middle income residents living in privately owned properties*” falls in the 30-40% deprivation decile, while the other falls into the most affluent area of Merseyside (90-100%).

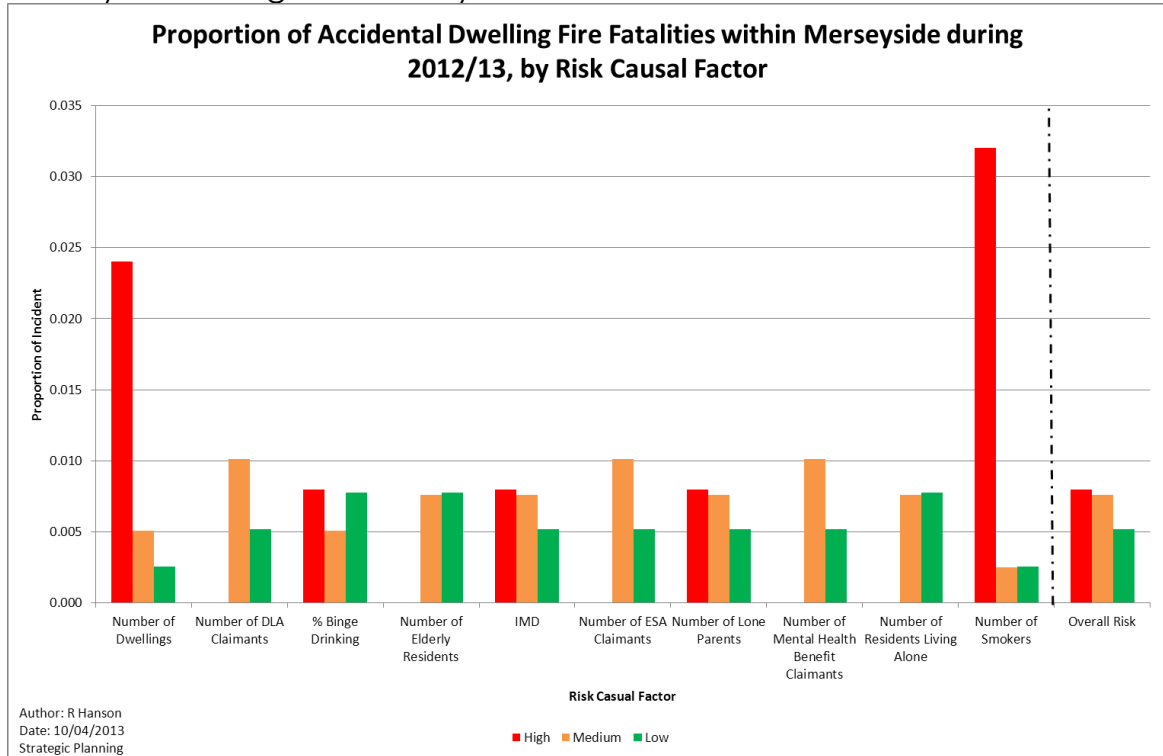
The segmentation at highest risk according to the Customer Insight Community Profiles is segmentation “3 – *Middle income residents living in privately owned properties*” with 3 fatalities. It is this segmentation where the Customer Insight Community Profiles and Indices of Multiple Deprivation diverge; this is potentially associated with the geography types that the two tools used as follows:

- IMD is based on a geography known as “*Lower Layer Super Output Area*” which is an area made up of 400 dwellings or 1 600 head of population.
- The Customer Insight Community Profile uses a smaller geography called “*Output Area*” which is 125 properties or 300 head of population. Therefore the Customer Insight Community Profiles are able to identify pockets of this segmentation type in and amongst

⁴ Customer Profiles within this table are based on the Customer Insight Community Profile. Refer to the report in related documents for further information.

areas of deprivation and affluence as identified using Indices of Multiple Deprivation.

Chart 3: Proportion of Accidental Dwelling Fires Fatalities within Merseyside during 2012/13, by Risk Causal Factor⁵



The overall risk suggests that proportionally there were more fatalities in Accidental Dwelling Fires in High risk areas, followed by Medium risk and then 'Low' risk. However when looking at individual causal factors which make up overall risk there are a few exceptions to this pattern.

There were no fatalities related to High risk areas for: 'Number of DLA Claimants', 'Number of Elderly Residents', 'Number of ESA Claimants', 'Number of Mental Health Benefit Claimants' or 'Number of Residents Living Alone'. 'Number of Dwellings' and 'Number of Smokers' causal factors saw high proportions of fatalities in Accidental Dwelling Fires in areas related to High risk.

Finally when looking at the causal factors of 'Number of Elderly Residents' and 'Number of Residents Living Alone', there was a higher proportion of fatalities in Accidental Dwelling Fire's in Low risk areas.

It must be further reinforced that the numbers of fatalities in Accidental Dwelling Fires are very small and therefore the differences in proportions between High, Medium and Low risk areas are also diminutive.

⁵ This chart was produced using causal factors within the Customer Insight Risk Profile.

6.2 Temporal Analysis

Table 4: Number of Accidental Dwelling Fire Fatalities during 2012/13, by Month and suspected influence from alcohol.

Month	Day	Fatality	Alcohol
May	Sunday	1	1
July	Thursday	1	1
January	Monday	1	0
	Friday	1	1
February	Monday	2	1
Total		6	4

Table 4 provides the breakdown of when Accidental Dwelling Fire Fatalities occurred throughout the year. As the numbers of fire deaths are low it is difficult to ascertain any meaningful pattern, but half; 3 occurred on a Monday.

Four fatalities occurred within winter months (January and February), with the other fatalities occurring within the months of May and July.

In 4 of the 6 deaths there was evidence of alcohol consumption which could be a contributory factor towards the fatalities.

6.3 Further Analysis

Table 5: Property Type & Ignition Source for Fatalities in Accidental Dwelling Fires 2012/13

Property Type	Location of Fire	Candles	Cooking Related	Heating Related	Smokers Materials	Total
Bungalow	Bedroom	1				1
Flat	Living Room		1			1
Semi Detached	Living Room	1		1	1	3
Terraced	Living Room			1		1
Total		2	1	2	1	6

Table 5 gives a breakdown of fatalities by: property type, location of fire and ignition source. Three fatalities occurred in "Semi-Detached" properties. Furthermore, 5 of the fires which caused the Fatalities originated in the "Living Room", of which 1 was "cooking related" and 2 were "heating related".

Two other fires originated in the "Living Room" resulting from "Candles" and "Smokers Materials" and the final fire occurred in the "Bedroom" and caused by a "Candle".

Table 6: Fire Safety (HFSC & Smoke Alarm) in Accidental Dwelling Fire Fatalities

HFSC	Fitted and Operated	Fitted, did not operate	Total
Yes	6	0	6
No	0	0	0
Total	6	0	6

Table 6 identifies that all 6 of the properties involved in an Accidental Dwelling Fire Fatality did previously receive a Home Fire Safety Check and in all of those cases an alarm was fitted and did operate.

Table 7: Age and Gender of Fatalities in Accidental Dwelling Fires in 2012/13 (Based on ONS age bands)⁶

Age Range	Female	Male	Total
40-44		1	1
45-49	1		1
50-54		1	1
65-69		1	1
75-79		1	1
80-84	1		1
Grand Total	2	4	6

Table 7 identifies that there were 0 fatalities below the age of 40. In essence the table identifies that with age the likelihood of becoming a victim in an Accidental Dwelling Fire increases. Half of the fatalities during 2012/13 occurred in those who were over the age of 65.

Regarding gender, the majority of Accidental Dwelling Fire Fatalities were male (4) and 2 were female deaths. All fatalities were from a 'White British' background.

6.4 "Other" Fatalities

Apart from Accidental Dwelling Fire Fatalities, there were 4 "other" fire related deaths across Merseyside in 2012/13; however these deaths did not qualify under the performance indicator LPI 45.

⁶ ONS = Office for National Statistics

7. Information Sharing & Identification of those at fire risk

Merseyside Fire and Rescue Service continue to work closely with key partners to ensure that the risk of fire is reduced within the community.

To identify those at risk of fire, a key area of work has been through establishing and agreeing information sharing protocols. These have been with the adult social service departments, as well as other key partners. These protocols have ensured that there is a formal legal framework to share information securely.

In establishing these protocols, staff within MFRS can make contact with vulnerable people who are already known by other professionals. This has greatly assisted in identifying those who are most vulnerable to the risks associated to fire.⁷

Advocates and other staff that deal directly with the most vulnerable groups within the community have outlined that without the secure sharing of social services data, MFRS would more than likely not have known about that person at high risk of fire.

Protocols have been put in place with: Adult Social Services Departments in each district; Revenues and Benefits Departments of: Liverpool, Sefton, St Helens and Wirral. Over 65 PCT data (Exeter data) has been received from St Helens PCT, Wirral Council Landlord Accreditation Scheme and seven Registered Social Landlord (RSL) Associations across Merseyside. Secure technology (AVCO) enables MFRS to securely electronically receive newly recorded known people that Social Services have had contact with.

Customer Insight Project:

Ongoing research in partnership with Liverpool John Moores University has identified a number of causal factors that are significant for determining risk of vulnerable persons. This research identified that elderly residents, residents who lived alone, residents that smoked and residents with a disability were particularly at risk of Accidental Dwelling Fires,

⁷ It is evident from the analysis of the fire fatalities data, that the older population are deemed to be of greater risk of fire in the home. Although MFRS has previously obtained data (age 65+) from St Helens PCT as a one off data share, this has never been achieved within the other 4 districts of Merseyside. For the future, external partners who can help in identifying individuals aged 65+ should consider that if this data is shared with MFRS they can help by trying to prevent further fatalities occurring in the home.

especially in cases where more than one of these causal factors were present.

It was also identified that there was a need to associate risk with a person rather than an area. The customer insight project was started to address this. A key aim of this project is to improve sharing of information about vulnerable individuals and more efficient use of this data. This should enable improved identification of individuals who are high risk but living in low risk areas this allows us to create a vulnerable persons index for each station area.

8. Conclusion

The purpose of this report is to provide an analysis into the circumstances of fatalities in Accidental Dwelling Fires across Merseyside during the financial year 2012/13.

In summary the findings within this report are as follows:

- During 2012/13 Merseyside had 6 fatalities in Accidental Dwelling Fires, 1 more than in 2011/12.
- Concerning locations of Accidental Dwelling Fire Fatalities there have been: 0 incidents in Knowsley, 0 in Liverpool, 1 in Sefton, 2 in St Helens and 3 in Wirral.
- Of the 6 fatalities; 2 were related to inappropriate use of candles, 2 were related to heating appliances, 1 was related to cooking equipment with the final fatality being linked to smoking materials.
- During 2012/13, 3 of the fatalities occurred on a Monday.
- During 2012/13, 67% (4) of fatalities were in the top 40% most deprived areas of Merseyside
- Regarding fire detection systems, all 6 properties had received Home Fire Safety Checks where smoke alarms had been fitted and operated during the incident.