



Evaluation of the Home Fire Safety Checks

Research Summary

Social research

Number: 14/2013

Aims of the evaluation

Home Fire Safety Checks (HFSCs) form a key part of fire risk reduction activities, with £4 million spent by the Welsh Government since 2004/05. The aims of this evaluation were to provide:

- evidence to further develop the targeting and conduct of HFSCs in Wales, so as to improve their impact;
- evidence regarding the impact of HFSCs, so as to inform decisions on their future funding; and
- input to decisions on how to allocate funding for HFSCs in the future.

Method

The evaluation had three main parts.

1. Process review

From reviewing previous research and evaluations of HFSC work, evaluation criteria were developed for the evaluation of the HFSC work conducted in Wales. A profile of HFSC practices in Wales was compared against these criteria.

2. Impact analysis

The number of FRSs in Wales and the number of fires and casualties is relatively low. Therefore, a number of different impact assessments were completed. The results from each assessment were then considered together to ascertain whether there was evidence of HFSCs leading to fewer incidents. In addition, the number of dwelling fires, deaths and casualties decreased in the four year period (2000 to 2003) prior to the WG funding of HFSCs. It was therefore necessary to explore if there was an acceleration in the rate of change due to the HFSCs. Finally, WG has also worked with FRSs, local authorities and registered social landlords to fit hard-powered wired smoke alarms.

This again made it important to assess the additional impact of HFSCs over and above other coincidental fire safety initiatives. The impact assessment was limited by the data supplied by WG and the three FRSs. For example, there was no fire data available for 2009. It is possible that a firmer set of results could be achieved if a more complete dataset had been available. In particular, a longer time series of fire data (i.e. 2008 and 2009) might provide more robust results.

3. Targeting analysis

Firstly, the relationship between dwelling fires, deaths and casualties in Wales and the 2001 Welsh Census using local authority level data (22 data points) were explored through correlation and regression analysis. This produced a set of Census variables that were associated with dwelling fires. Secondly, the numbers of HFSCs per local authority were compared against these Census variables.

Findings:

Number of HFSCs completed

The three FRSs have carried out a very large number of HFSCs and installed a large volume of smoke alarms using the WG funding, i.e. about 200,000 HFSCs between 2004 and 2008 which is about one for every 15 Welsh residents. With close to £3 million funding in this period, this is about £14 per HFSC and £11 per installed alarm¹. This is comparable to the cost of HFSC and alarm installation reported in England for the four-year Home Fire Risk Check capital fund.

The rate of HFSCs was initially far below planned levels, with FRSs accelerating their work in subsequent years. Overall, the achieved number was 7% below plans in the period to 2008/09 with FRSs accelerating their work in subsequent years.

Impact on rate of dwelling fire

Overall, it was found that there was mixed evidence regarding the impact of the HFSCs on the rate of dwelling fires, deaths and casualties in Wales. Whilst all three

¹ Not all HFSCs resulted in an alarm being installed. In some cases, one was already installed.

measures have declined, it is unclear to what extent the decline in incidents can be statistically attributed to the HFSCs. Key findings:

- Wales completed more HFSCs than England between 2004 and 2008. Whilst the rate of Welsh dwelling fire deaths fell more than in England, dwelling fires and casualties fell more in England than Wales.
- The actual fall in incidents in Wales was less than predicted, given the rate of alarms installed for fires and casualties, but was more than predicted for fire deaths.
- There was no evidence of an accelerating rate of decline for fires and casualties, but a rise in fire deaths was reversed and became a decline in fire deaths.
- There was no clear association between the rate of alarm installation and the amount of change in incidents. Indeed, the number of dwelling fire casualties rose rather than fell in North Wales.
- There was some limited evidence that incident rates fell more in those local authorities with higher rates of HFSCs.
- The number of elderly fire deaths fell slightly more than that of people as a whole between the before period (2000-03) and 2006/07.

Thus, there is limited statistical evidence of an impact of the HFSCs on the rate of dwelling fires, deaths and casualties. This is consistent with the process review in so far that it identified potential concerns with the conduct of HFSCs, particularly in the first few years. Given that the FRSs are all developing their HFSC processes and increasing the level of targeting, it is possible that a clearer association between HFSCs and impact could be

detected if fire data for the period 2008 onwards is analysed when it becomes available. Ideally, the statistical impact analysis should be repeated when a longer time series of data and more complete dataset is available.

Targeting analysis

A key concern relates to the basis on which HFSCs are targeted. Targeting can be done by area (focusing on higher risk areas) and by type of household (higher risk households). All three FRSs reported using the Fire Safety Emergency Cover (FSEC) Toolkit, historic fires and hotstrikes (targeting particular residential areas) to target their HFSCs. Other methods of targeting have included Mosaic, CFIRMIS (demographic analysis software) and data from the Council Tax Department. Mid and West Wales FRS and North Wales FRS stated that they have been targeting their HFSC work since 2007 at the most vulnerable and high risk residents. South Wales FRS stated that they started using a targeted approach in 2008 and before this period, a blanket approach was taken. FRSs were

advised to target areas using the factors cited in the FSEC Toolkit, these factors are lone pensioners and rented accommodation. The researchers did find that there was a strong correlation between the rate of HFSCs and the percentage of single pensioners, which indicates that FRSs did target HFSCs onto areas with higher rates of single pensioners, following the direction to use the FSEC Toolkit to target areas. However, analysis revealed these two socio-demographic risk factors were not correlated with the rate of dwelling fires or casualties in Wales. This indicates that the FSEC Toolkit is out-of-date or not applicable to Wales. Since there is no correlation with the rate of fires, it is suggested that FRSs review their use of the FSEC Toolkit in targeting of HFSCs.

Funding

The allocation of funds was not proportionate to risk of dwelling fires in each FRS. Based on the reported rates of dwelling fire, Mid and West Wales FRS would have received more funds per million population (pmp) than North Wales FRS, with South Wales FRS

receiving the lowest level of funding. Whilst South Wales did receive the lowest rate of funding pmp, North Wales had the highest rate of funding.

Alternative ways of allocating future funding were explored. If funds were allocated evenly across all three FRSs, £1,300,000 would equate to about £0.44 per head. One option is to allocate funds per head of population to each FRS based on a measure of risk. Such as:

- past rates of incidents;
- socio-demographic fire risk regression formula; and
- a weighted measure of past incident rates.

It can be noted that incident rate measures can be viewed as creating a perverse incentive of rewarding higher incident rates. Therefore, it is often argued that funding should be based on risk indicators such as lone parents rather than reactive outcome measures. However, on this occasion the socio-demographic regressions do not clearly align with reported incident rates.

Therefore, an option is to use a

weighted rate or number of incidents as the basis of funding.

Recommendations

Recommendations for WG

It is recommended that:

- WG continue funding HFSCs at the proposed level of £1.3 million in 2010/11 and consider funding beyond this period, with funding allocated to FRSs based on a weighted measure of dwelling fire incidents until a more accurate socio-demographic index can be identified.
- A proportion of that funding is linked to reported progress in completing HFSCs, such as 20%. As part of this it is suggested that WG requires regular reporting of the number of HFSCs and alarms installed, such as every quarter, and that WG checks reports and acts on any emergent issues.

- WG issues guidance on selected aspects of HFSCs including:
 - the importance of accessing “hard to reach” vulnerable people through partnerships with organisations such as housing associations, private landlords, charities and Social Services;
 - targeting HFSCs onto vulnerable households; and
 - tracking the number of HFSCs by household type, etc.
- Quality assurance of HFSCs is conducted, such as by some level of “customer feedback” (e.g. telephone survey of a sample of residents), and re-visits.
 - WG reconsiders its guidance on the use of the FSEC Toolkit to target areas. It is recommended that FRSs do not use the potential risk factors (lone pensioners and rented accommodation) currently in the FSEC Toolkit, to target HFSCs. Instead, it is recommended that HFSCs are targeted at areas with high rates of lone parents and people that have never worked. It is also suggested that HFSCs are targeted using dwelling fire incident data, at least until FSEC Toolkit’s risk factors are updated.
 - WG promotes the development of a national forum for the FRSs to share experience, co-ordinate national level partnerships, develop common HFSC tools and techniques and any other national level HFSC activity.

Recommendations for all FRSs

Recommendations for all FRSs include:

- Focusing resources on targeted HFSCs, particularly targeting by household type.
- All FRSs consider setting targets for a number of HFSCs per types of households, or at least for the key high risk types of households.
- The extent to which referrals are secured through the use of mass media is reconsidered, and specifically, halting this practice by giving limited support to lower risk referrals (e.g. post them a leaflet) or by noting which types of households should call national helplines.
- Effective partnerships exist with the full range of agencies that have contact with target groups and that these partnerships are delivering desired numbers of referrals.
- All FRSs explore further and pursue data-sharing opportunities with primary care trusts and social services, especially for reaching the elderly and disabled, with the option of a national data-sharing protocol developed to support this.
- Referral criteria for partners is used, e.g. any single adult, elderly (over 65), disabled, no smoke alarm, alcohol or drug dependency, cigarette smokers.
- All FRSs pursue more partnership work with private and social landlords, Social Services and sensory teams.
- The possibility of national partnerships with key organisations such as Age Concern is considered.
- For all FRS to monitor the rate of referrals from partnerships as part of ongoing partnership evaluations.

- The tracking of the number of HFSCs by household type is improved.
- Revisits of higher risk households to check implementation of fire precautions and offer further support are completed.
- Developing a common HFSC form for Wales is considered.

Author: Greenstreet Berman Ltd

ISBN: 978-0-7504-9206-5