Cheshire Fire and Rescue's Innovative use of the Exeter Health Data

So what makes Cheshire Fire and Rescue innovators?

In 2015 the Chief Fire Officers Association and NHS England came to an information sharing agreement to allow Fire and Rescue services across the UK access to the Exeter health data. This data is GP registration data that will enable them to identify the over 65s (year of birth, gender and address) and deliver 'Safe and Well Visits' to those who are in need or potentially vulnerable. So why are Cheshire innovators? Cheshire has been using this data since 2008 and has learnt lessons on how to use it to maximise its benefit.

From Home Safety Assessments to Safe & Well visits

Traditionally a fire and rescue officer will visit a resident's home and assess potential fire hazards, giving advice on making the home safer, what to do in the event of a possible fire and being trapped inside the building. The officer can also fit smoke alarms and give advice on maintaining them. From May 2016 Cheshire will launch Safe & Well visits which will extend the range of interventions to prevent slips, trips and falls, smoking cessation, alcohol reduction and bowel cancer screening and make 40,000 visits using partner referrals and the Exeter data methodology.

Who has been involved in this process?

Cheshire Fire and Rescue created a local data sharing agreement alongside the Local Primary Care Trust with permission from the trust's Caldicott Guardian. They have gone on to form a partnership with Age UK to further enhance the offer to the over 65s in the area and develop a joint contact assessment form on the householders' needs including meals on wheels, mobility needs, and even helping with isolation and loneliness, through the Supporting You programme.

How they approached the challenges of using the Exeter health data

As Fire and Rescue Services across the UK get to grips with the 'bag of gold' that has been given to them in the form of the Exeter health data, they have been presented with questions and challenges. Cheshire's experience and how they have developed their analytical understanding and methodology is really a story of how to overcome some of these challenges.

How to deal with the quantity of information?

In 2015/16 Cheshire received 206,000 records in their Exeter data and due to the aging population's increasing life expectancy, this is a number that will continue to grow. This data also needs to be broken down further into geographical areas based on local fire services locations. By using a series of risk-score weightings, Cheshire are able to enrich the Exeter data based on age, gender, living alone, geo-demographics (Mosaic) and response times from the nearest station. The identification of those most at risk turns 206,000 records into a list of 20,000 in greatest need.

How do you overlay this information with Cheshire's own strategic intelligence analysis, to make the shared data meaningful?

Originally Cheshire FRS had worked delivering assessments on a ward basis. This involved calculating rates of dwelling fire per ward and categorising them into high, medium and low risk categories. However the service understood that risk wasn't solely geographically related. Research was conducted into what the key fire risks were allowing for demographic groups, and then taking into consideration lifestyle factors such as alcohol and smoking, mobility and mental health which are also covered by local partnership referrals. This more nuanced model allowed for cases to be prioritised more robustly.

How do you use available resources to deliver on this work?

Recognising that that was still a huge amount to deliver, Cheshire FRS went further, adopting a "Gold, Silver and Bronze" categorisation. They did this by creating a methodology which was based on four indices – this gives a score to each of the individuals on the list, based on:

1. **Personal risk** (calculated based on age and gender mortality data).

2. **Geo-demographic risk** (using the Mosaic dataset which classes every household in Cheshire into one of 15 groups, this data was then matched with the historical incident data in order to understand which groups were disproportionately victims of fires and related injuries).

3. **Lone person risk** (this meant that a lone person would score more than someone who was co-habiting).

4. **Response risk** (this takes into account how long it takes for the Service to attend at each property in the event on an emergency).

By categorising the risk they were able to target households more effectively, achieving 65% completion in 2014/15.

Type	2013/14	2014/15
Gold (over-65)	11,846	12,598
Silver (over-65)	4,295	4,258
Bronze (over-65)	2,177	1,908
Home Oxygen User (inc those over-65s)	868	927
Other referrals / post-incident (inc those over-65s)	8,020	8,262
TOTAL	27,206	27,953

How to engage fire officers in delivering the assessments?

The fire and rescue service are a service with high levels of public trust and deliver the Safe and Well visits to a wide range of households on the basis of referrals from other services such as the partnership work with Age UK, as well as using a more targeted approach to the over 65s. Moving to a more data-driven, analytical and proactive approach to home safety represents a challenge to the traditional 'emergency response' mind set of officers and staff. By engaging everyone responsible in this change, the cultural perception of the traditional fire and rescue role and the ethos of the service have been maintained but has become more sustainable.

How to engage those that may refuse a Safe and Well Visit or are hard to reach?

Cheshire Fire and Rescue have continued to use their analytical approach to understand how successful the visits are, which has identified that some individuals refuse a visit or are not at home when an officer calls. This means that they can now think about how to further develop their approach, recognising that it can never be 100% fool proof; however, this does offer the opportunity to learn and improve their service offer.

What is the impact of completing the Home Safety Assessments in Cheshire?

▶ Cheshire's use of the Exeter health data has enabled the effective targeting of the elderly population and the percentage of visits carried out on the elderly has increased year on year.

▶ Smoke alarm ownership has increased, year-on-year amongst groups who are likely to have fires.

▶ Approx 4,000 contact calls made by Fire officers have resulted in effective referrals and interventions by Age UK.

The Challenges and Next Steps

The challenges for Cheshire will be to maintain the high standards they have set themselves, especially after their successful collaboration with Age UK, which has ensured that in partnership effective interventions have been offered to some of Cheshire's most vulnerable people. Secondly it is achieving higher completion rates with hard to reach groups especially using and cross referencing their information and case reviews of fatal fires.

The challenge for Fire and Rescue services across the country is not only how to use the Exeter data for their own service but how to link in with other partner agencies to improve outcomes for the most vulnerable in the community. The next steps for Cheshire FRS are to ensure that the methodology they have adopted and the lessons learnt are shared between other fire and rescue services so that this innovative work continues in other regions.

How Exeter data can be used to determine those most at risk from Excess Winter Death (You can view the video by visiting https:/youtube.be/1c4h3-lWLhU) and how this fits in with Fire & Rescue Services work with the NHS on Safe and Well visits. Alongside this is the ongoing work using Exeter data with Environment Agency flood plain maps to identify the most vulnerable and at risk.

IIf you'd like to find out more about the work in Cheshire contact:

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Exeter Data presentation By Evan Morris

2013 over 45,000 winter deaths

Currently 17% of the UK's population is over 65

50% of all fire deaths are people over 65 years old, in some parts of the UK this as high as 90%

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