

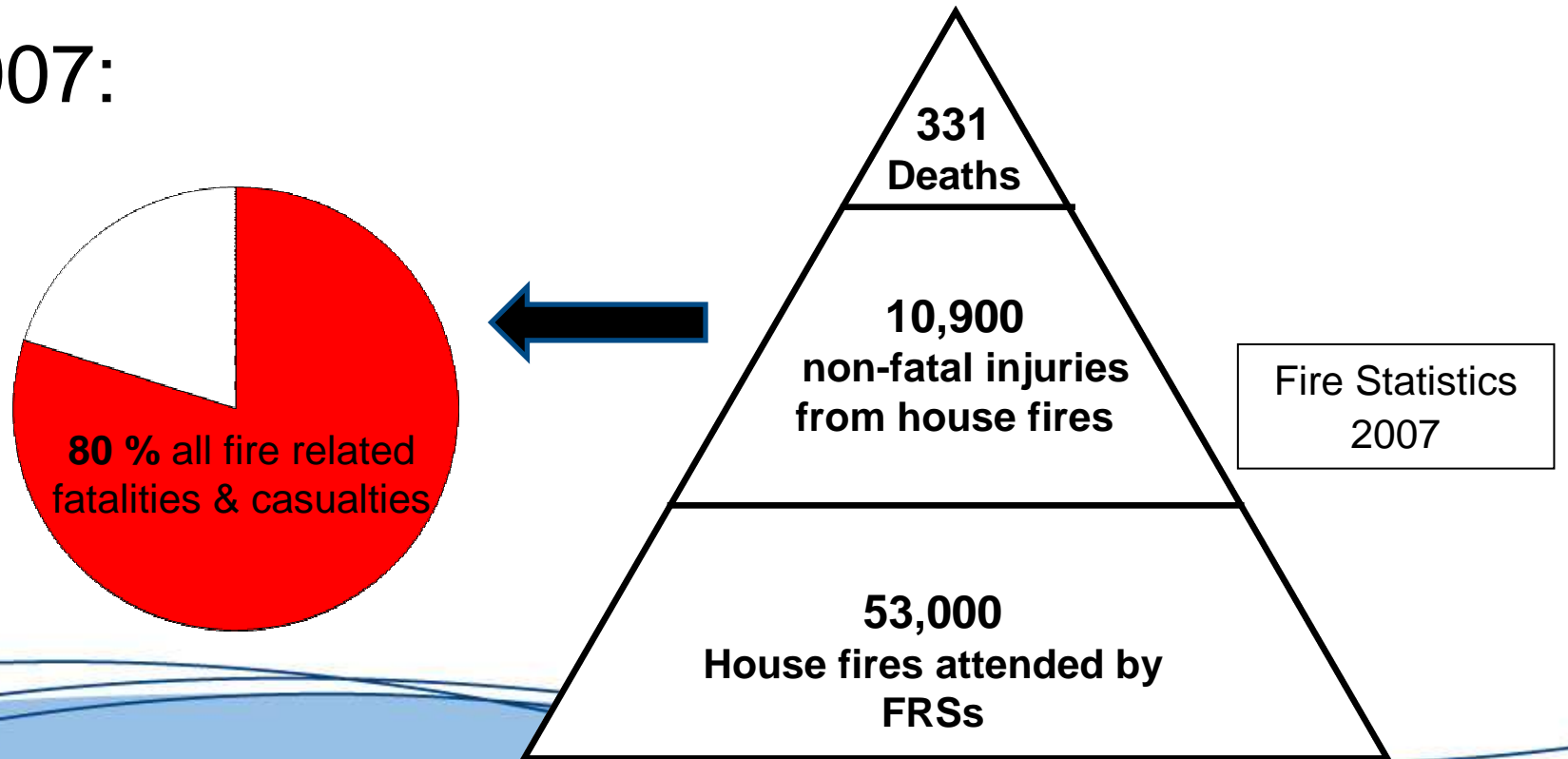
Developing new risk models to target the Fire and Rescue Service's free Home Fire Safety Checks more effectively

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Did you know?

Fire related deaths and injuries in the home are a major public health concern in the UK

In 2007:



Numerous house fire prevention initiatives have been introduced...

Fire and Rescue Service (FRS) in 2004 introduced the:

HOME FIRE SAFETY CHECK (HFSC)



HOME FIRE SAFETY CHECK (HFSC)

HFSC is a **FREE** service for any person living in UK

Identify **potential fire risks**
remedy these where possible



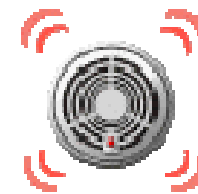
Physical risks e.g.
No spark guards
Overloaded sockets

Behavioural risks e.g.
Smoking in bed
Cooking after drinking alcohol

HOME FIRE SAFETY CHECK (HFSC)

- Fire Safety Advice
- Administering and installing **FREE** fire safety equipment

(e.g. Installing **10 year life smoke detectors**)



HOME FIRE SAFETY CHECK (HFSC)

Extremely Successful Initiative

Evaluation report showed:

- **saved 53 lives**
- **888 fewer injuries**
- **13,670 fewer fires**



HOME FIRE SAFETY CHECK (HFSC)

- FRS unable to visit every home in UK
- **High Risk Area** targeting approach used
- However, many fire related deaths and injuries occur outside these areas

Low Risk Area



i.e. ‘invisible vulnerable’
such as vulnerable people
living in low risk area

The Proposal

Develop new risk models which target HFSC at **individual & household** level to supplement **FRS area based models.**

Develop and evaluate new marketing approaches..

Second gap of population health **translational research**

How do we plan to do this?

Secure Anonymised Information Linkage (SAIL) databank at Swansea University

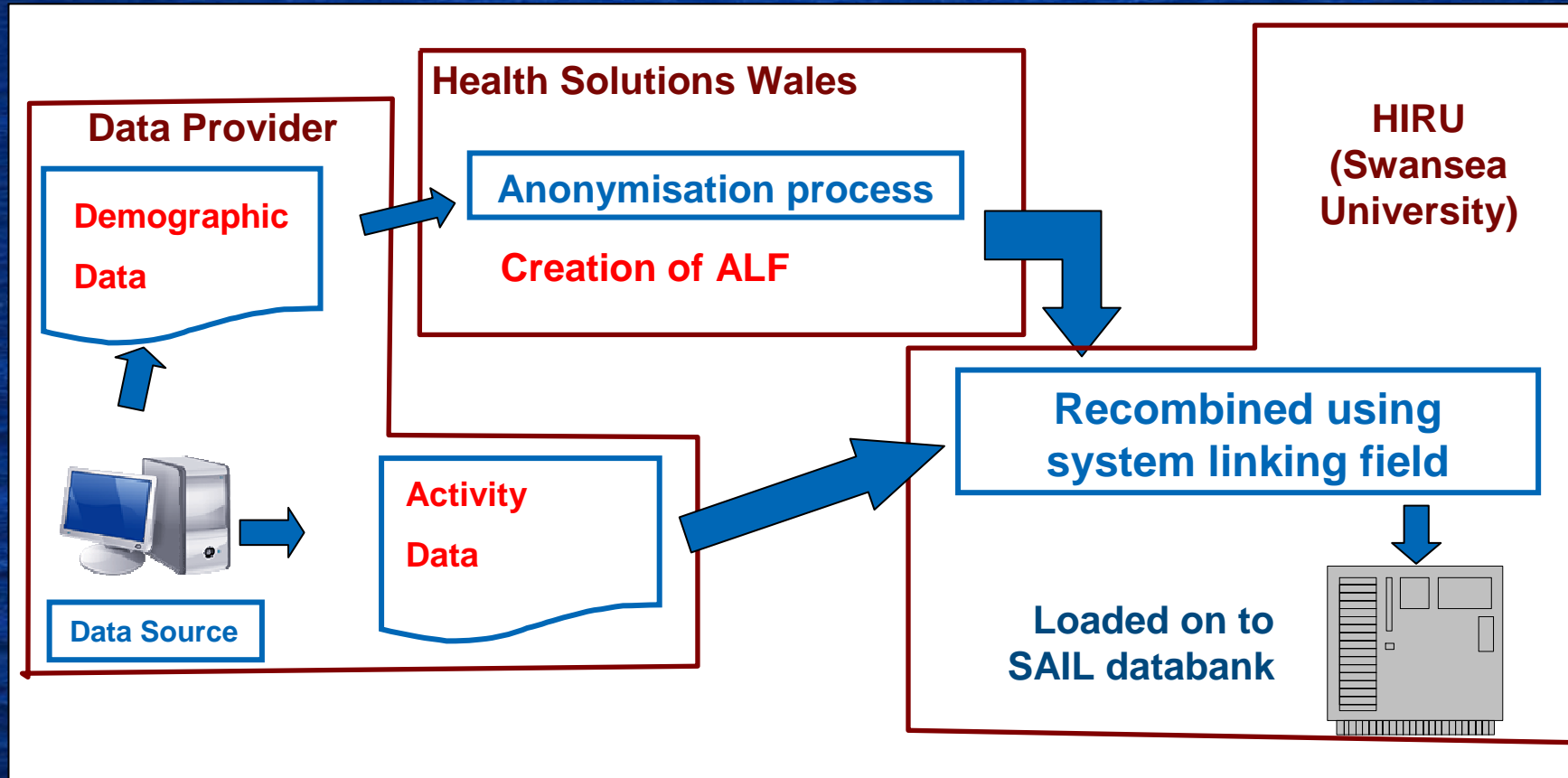


Links **individual** and **household** level data from numerous **health, education** and **social care** datasets

While retaining an individuals **ANONYMITY**



How SAIL works: SPLIT-FILE APPROACH



Lyons RA, et al. The SAIL databank: linking multiple health and social care datasets. *BMC Medical Informatics and Decision Making* 2009; 9:3.

SAIL databank

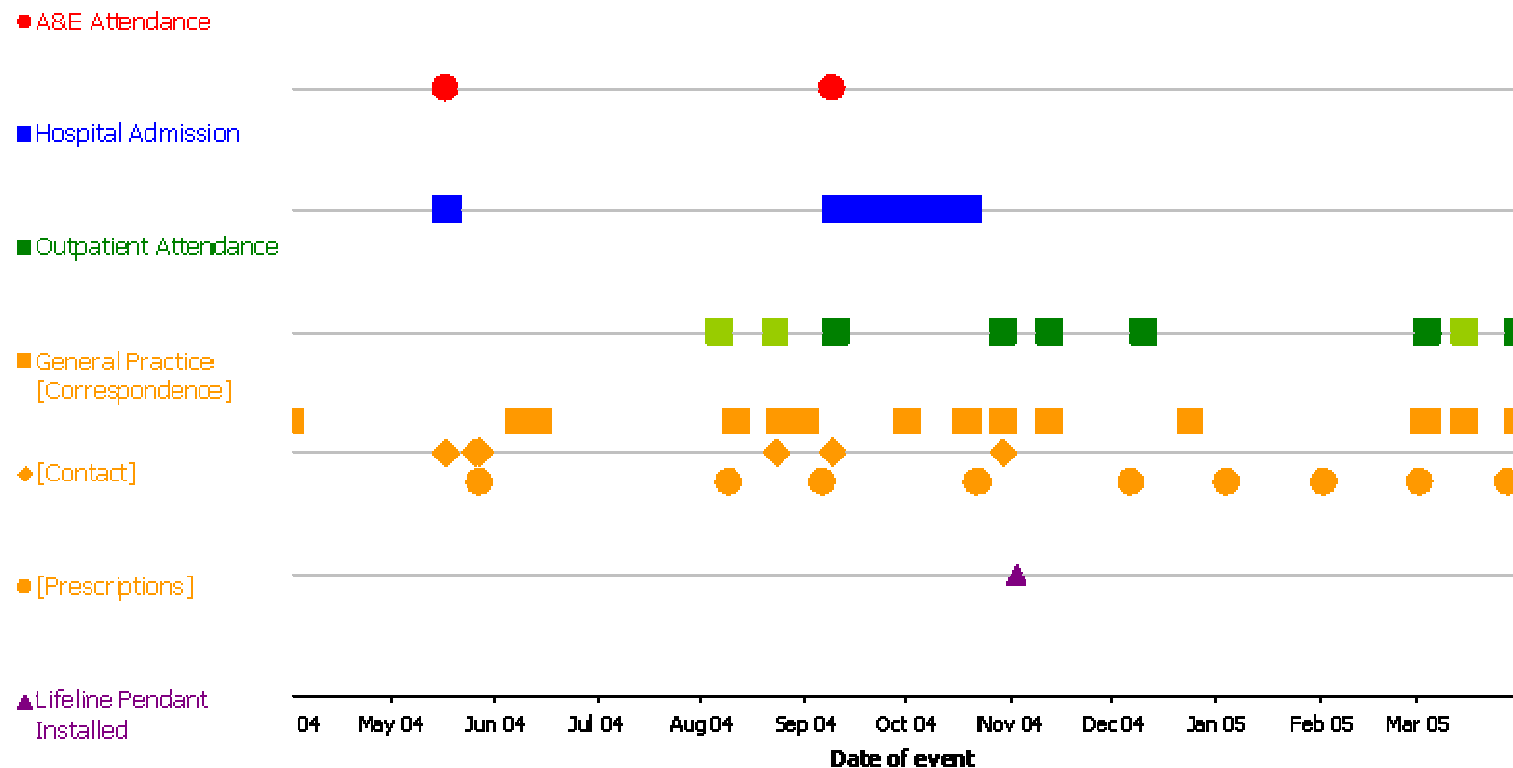
SAIL allows us to follow individuals across health, education and social care sector whilst retaining their **anonymity**



Lyons RA, *et al.* The SAIL databank: linking multiple health and social care datasets. *BMC Medical Informatics and Decision Making* 2009; 9:3.

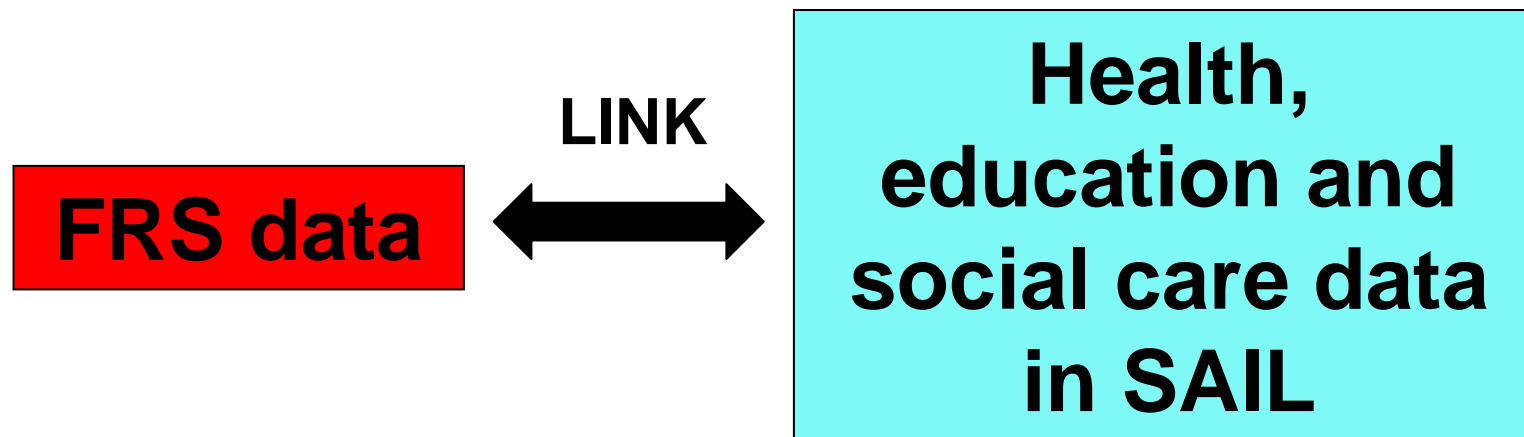
Patient Journey Analysis across SAIL databank.

One Patient's Journey Across all the HIRU datasets, 2004/05



How will we use SAIL?

If we receive approval



Analyse linked data to see whether we can identify any **high risks groups living in Wales** (e.g. smokers, people living alone, combined risk factors)

Which datasets?

**Department for Children
Lifelong Learning and Skills
(DCELLS) dataset**



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

**Free School meal entitlement
could be used as an indicator of
deprivation**

Is there a **relationship** between
homes receiving **free school
meals** and **house fires**?



Which datasets?

General Practice Dataset

Contains annual updated info on whether an **individual smokes**

Is there a **relationship** between **house fires** and having a **smoker** reside in the property?



Link individuals living in the same house

Residential Anonymised Linking Fields (RALFs)

We can see if several anonymous individuals live in same house using **ALF to RALF** look up table.



ALF	RALF
1122334455	1212455555
5544332211	1212455555
5566778899	1212455555

Same RALF: Co-habiting

Link individuals to household level data

Link individuals **household information** e.g. type of property and age of property etc.

Also **local information** e.g. nearest fire and rescue station etc.



ALF	RALF	Medical 1	Medical 2	Type of Property	FRS data
1122334455	1212455555	Treated for burns	Smoker	Flat	House Fire
5544332211	1212455555	Treated for burns	Non-smoker	Flat	House fire

Next Step....

Find out if data owners will collaborate with FRS to help recruit high risk individuals for free HFSC?

e.g.

**Anonymised GP
data in SAIL**



**Reverse
Anonymisation**



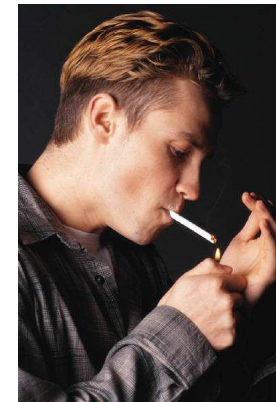
GP surgery



Leaflet sent



**Contacted
about HFSC**



Evaluation

Cluster and Individual RCTs

→ New Risk Models

→ New Marketing Approaches

- Does the new method work?
- How much does it work?
- How much does it cost?
- Are the benefits worth the costs?



Thank you for listening!

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