The Renfrew & Paisley and Midspan Family Studies

How were they done and what have we learned?

Prof Laurence Gruer OBE
• Brainchild of Dr Victor Hawthorne, a public health doctor and researcher. Now aged 93!
• He had started in the 1960s doing research aimed at helping to control *tuberculosis*

• He wanted to find out more about why *heart and lung diseases* were so common in the west of Scotland, so that more could be done to prevent them

• To do that he needed to get *information from a lot of people* about many aspects of their lives, while they were still fairly healthy, then find out what happened to them in the years to come.
• He chose **Renfrew and Paisley** as typical Scottish towns

• He wanted to recruit as many people as possible **aged 45-64** – not too young and not too old!

• First he got the **Boy Scouts** to go round all the houses and find out where all the people aged 45-64 lived

• 97% of households replied to his invitation

• Recruitment went on from **1972-1976**, using a team of **40 workers**
• Over **8300 women** and **7000 men** volunteered.

• **80%** of all 45-64 year olds in the towns!

• One of the first studies like this to have so many **women**.

• A **good cross-section** of middle-aged Scottish people.

• A fantastic response.

• A tribute to the local.
• Agreement with NHS to get secure and confidential notification of dates and causes of death, hospital admissions and cancers

• Able to find out who got what diseases and when

• Then link this to the information everyone provided at the beginning.

• Now followed up for around 40 years!
The **Midspan Family Study**

- 4064 *married couples* in the R&P study
- In **1996**, their offspring invited to take part in new study
A MASSIVE search has been launched to find thousands of people who took part in a unique health study carried out in Paisley and Renfrew more than 20 years ago.

They are wanted to help in a new survey which will investigate why some families experience heart disease and cancer more than others.

The move comes in findings of the first survey, carried out between 1972 and 1976, show that for a given level of smoking the rate of lung cancer in Paisley and Renfrew is twice as high as in other populations.

Results also show that the statistics are the same for heart attacks and cholesterol count.

This time round, however, it’s the children of the 4000 parents involved in the original study who are desperately wanted by researchers at Glasgow University.

“Out of the 15,000 people who originally took part there are just over 4000 married couples,” said Dr Graham Watt, one of the research team.

“The problem for us is trying to contact them. We need their help to establish the whereabouts of their children so that we can go on and ask them if they would be willing to take part in this new study some 20 years on.

“On the basis of our own pilot study it is estimated that there are about 2000 to 3000 children still living in the Paisley, Renfrew and Glasgow areas.”

“Our task is to try and find them.”

Dr Watt added: “Despite all the advances in molecular biology, a huge limiting factor in understanding major diseases is the problem of finding populations which are suitable to study.

“There is probably nowhere else in the world just nowhere it is possible to carry out a study of the type that we propose.

“It would take other researchers 20 years to establish a similar opportunity to the one which exists at present in Paisley and Renfrew.”

Between 1972 and 1976 when the original study was carried out 60 percent of the population in Paisley and Renfrew took part. Measurements of blood pressure, cholesterol, glucose, height, weight and lung function were all taken.

It is the only study of cardiorespiratory disease and risks whose results can be applied directly to health problems of people in the West of Scotland.

Dr Watt said: “The results have been very useful in explaining why there is so much heart disease and cancer in this part of the world. What we want to look at now is why some families suffer from these diseases more than others.

“The only people who can help us today with the vital information we need are the children of the couples involved in the original study.”

If you know where they are now you can contact the research team on 041 946-7120 extension 1446 for more information.”
The Midspan Family Study

- 1298 daughters and 1040 sons agreed
- Same questions, measurements and samples as R&P study
- Followed up for 18 years
• Many researchers over the years.
  – Charles Gillis, Carole Hart, Graham Watt, Phil Hanlon

• 200 papers in 79 different medical and health journals

Sharing knowledge from which all can benefit
• How do you do this sort of research?
• Ask questions, e.g.
  – **Who** is most likely to get a heart attack and **why**?
  – After many years of waiting and watching, the number of people getting heart attacks grows
Compare groups

- Smokers and non-smokers
- People with high and low blood pressure
- People in manual or non-manual jobs

• Using computers, can do statistical tests to see which groups are more likely to get heart attacks.
• Then carefully interpret the results
Other questions the researchers have asked

- Is smoking bad for our health?
- Does air pollution cause health problems?
- Does your job or where you live affect your health?
- Do tall people live longer than small people?
- Does job dissatisfaction lead to heart disease?
Here are some of the main things we’ve learned from this research.
• Renfrew and Paisley Study

• Died
- 91% of men and 84% of women

• Lived to at least 80
- 36% of men and 55% of women
MAIN CAUSES OF DEATH OVER 40 YEARS

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<tr>
<th></th>
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<tr>
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<td>Respiratory 11%</td>
</tr>
<tr>
<td>Other</td>
<td>19%</td>
<td>Other 25%</td>
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RENFREW AND PAISLEY FOLLOW UP TO 2012
• **Thumbs down for smoking!**
  – Almost all lung cancers were in smokers
  – Smokers got lots of other nasty diseases
  – On average, smokers lived about 10 years less than non-smokers – **rich or poor**
  – Non-smokers who live with a smoker more likely to get lung cancer and other diseases

This research helped to get the smoking ban in 2006
• **Air pollution is bad for your health!**

• Regular measurements of **black smoke** air pollution around Scotland in 1970s.

• Estimates of air pollution levels close to where study members lived.

• Where **air pollution was higher**, study members more likely to **die early** from heart or lung disease
• Importance of healthy lungs

  – People with weak lungs die younger.
  – Poor nutrition in womb and infancy?
  – Lung damage very common due to smoking, air pollution, dust and fumes at work
  – Asthma more common in offspring than parents

• Air quality much better now

• Smokers: quitting the surest way to improve health
• **R&P study**
  – 60% men and 52% women **overweight** in 1970s
  – The more overweight, the more likely to get **diabetes or die early**

• **Family study**
  – Children of overweight parents more likely to be overweight themselves

• One of the **biggest** problems Scotland faces
• In R&P Study
  – Humblest backgrounds, lowest status jobs, poorest areas = worst health, die youngest

• In Family Study
  – About 1/3 of offspring had higher status jobs than parents, few worse off
  – Most offspring can expect to live longer than their parents
• Who have lived the longest?

– Women who didn’t smoke or get overweight, whether rich or poor!
• These are just a few of the many things the Midspan Studies have found.
• They show just how much can be learned from research like this
• Impossible without the help of so many generous people in Renfrew and Paisley