Leeds
CITY COUNCIL

Protecting health in Leeds

the story continues...

Director of Public Health
Annual Report 2013

Director of Public Health Annual Report 2013

Contents

Dr Ian Cameron at Thackray Medical Museum

Foreword

Dr Ian Cameron
Director of Public Health
Leeds City Council
Ian.cameron@leeds.gov.uk

Welcome to my latest Public Health Annual Report

The focus of this year's report is health protection, in particular infectious diseases and infant health. The reason lies with one immediate change that might be obvious from the front cover – there is no NHS logo. From April 1st 2013, public health in Leeds moved from the NHS to Leeds City Council as part of the large-scale re-organisation of the NHS. So I have moved, my staff have moved, funding and responsibilities have all moved to Leeds City Council. The local leadership responsibility for improving the health of the people of Leeds now lies with the 99 councillors of Leeds City Council.

The Council has, of course, a long history of involvement in public health. In 1866, Leeds Council appointed its first Medical Officer of Health, Dr M K Robinson, followed by the second, Dr George Goldie, in 1873. Some public health responsibilities moved to the

NHS in 1948 and more followed in 1974. However public health is not, as some suggest, coming back to Leeds City Council. It's not the same public health, not the same council, not the same public. Not all parts of public health have come over; some parts never left.

Today's challenge for our councillors is how to lead, mobilise and enhance the assets, skills and strengths within the city to improve health for all and reduce the health inequalities gap. What approaches should city councillors be using to lead and shape the conditions for good health in Leeds?

One thing is certain – our councillors will need to use a broader range of actions and approaches to health improvement than in the days of Dr Robinson and Dr Goldie. These are summarised below and I have set out some of these in my previous reports:

- **Tackling the social determinants of health.**
  My 2007/08 and 2009 Annual Reports described the actions needed, and being taken, in different neighbourhoods and localities across Leeds.
- **Changing lifestyle behaviours.**
  My 2012 Annual Report described current thinking and work being done in Leeds.
- **Ensuring access to effective health and social care.**
  My 2011 Annual Report set out the role of GPs in improving public health.
- **Ensuring a sustainable Leeds in which the natural environment co-exists successfully with economic growth and social relationships.**
  My 2010 Annual Report focused on the impact of climate change on public health.
- **Using economic and technological growth as a means of improving health.**
- **Protecting the health of the public from infections and environmental hazards.**

As councillors take on their new role, there is a risk that there will be a lack of emphasis on the last of these actions – health protection. Yet this sanitary-environmental approach was a dominant aspect of public health when Leeds Council first employed Dr Robinson and Dr Goldie. I want to emphasise that the issues faced by these first two Medical Officers of Health still have relevance today. For that reason, my Annual Report this year focuses on these same health issues – in particular, infectious diseases, air quality, infant mortality, and the role of school nursing in protecting children's health.

We are fortunate that Dr Robinson produced annual reports on the health of the population of Leeds from 1866 onwards, ahead of the legal requirement under the 1875 Public Health Act. That legal responsibility for Directors of Public Health continues today.

For this year's report I have been helped by Dr Goldie's report for Leeds from 1877, written 136 years ago. The reason for choosing that year is that Dr Goldie tends to give more opinions and personal views than his predecessor Dr Robinson – Dr Goldie is simply a better read – and in 1877, there is finally a feeling that a watershed has arrived. Death rates are beginning to fall – a turning of the curve. Dr Goldie certainly believed that the efforts by the Council were contributing to this progress. So his 1877 report has a hint, albeit small, of optimism.

In my report I have included a section on the period from 1866, when Dr Robinson arrives, to 1877, and what life and health is like in Leeds in this period, and some of the world events happening in 1877. I hope these sections also give you a sense of how the council responded to the public health challenges of the period. You'll realise that this was not a golden era.

Moving to public health in the present day, my colleagues discuss infectious diseases, air quality, infant health and the role of school nursing – and the challenges for today. I hope this report will make clear to councillors and others with responsibility for the city's health and wellbeing that health protection must remain a cornerstone of public health. Put simply, when judgement is made on whether all this huge NHS re-organisation has been worthwhile, Leeds City Council must be able to stand proud and state that the health of the people of Leeds has improved, the health inequalities gap has narrowed – and the health of the population has been protected.

I am indebted to the many people who have supported and contributed to my report. They are listed at the end of the report. I would particularly like to thank Simon Balmer, Sharon Yellin, Mike Gent, Jon Tubby and the Public Health Intelligence Team. I also have to give huge thanks to Kathryn Williams, project manager, and Penny Mares and Barbara MacDonald, editors.

I would also like to thank all my Public Health staff for their hard work and their support as we have made the transfer from the NHS to Leeds City Council.

Finally, I would like to thank Joanne Christmas, my Personal Assistant, for her help and support over the years and to wish her well in her new relocation down south.

I hope you find my report interesting. As in previous years I would welcome your feedback, comments and suggestions.

Introduction

Life in Leeds 1866 – 1877

Between 1790 and 1840, Leeds changed beyond all recognition. A market town vanished forever, to be replaced by a landscape of mills, factories, foundries and dye works. Chimneys now dominated the skyline, pouring out black smoke and noxious vapours. Leeds was truly experiencing the excitement, drama and impact of the Industrial Revolution. By 1893, Leeds was described as being:

> "a great hive of workers... whose products have the whole wide world for their market... her nine hundred factories and workshops, monuments of the wealth, industry and mercantile prestige."

So what was life like in Leeds between 1866 – when Dr M K Robinson took up his role as the first Medical Officer of Health for Leeds – and 1877, when his successor, Dr Goldie, used his annual report to review the health of Leeds?

The rise of industry

Much of the Leeds we know today took shape in the later part of Queen Victoria's reign. But there were significant changes in Leeds between 1866 and 1877. The population rose by roughly 50,000, to around 295,000.

50,000
more people

The textile industry was still important but other industries were coming to the fore. Engineering would become the city's main employer. In 1868 Clayton, Son & Co. of Hunslet was founded, specialising in making gas holders and oil tanks. Clayton's sat alongside other foundry companies already producing locomotives, steam engines, steam ploughs and other iron and steel products for railways, bridges and ship building.

half the workforce

Also on the rise was the mass production of ready-made clothing. This industry employed a huge female workforce in factories and workshops. The textile, engineering and tailoring industries employed almost half the workforce in Leeds.

Leeds city centre changed dramatically when the railway station opened in 1869. There were 18 million bricks used just in creating the Dark Arches. The line ran across Briggate, White Cloth Hall and the parish church burial ground. A journalist reporting on the first trains to the new station wrote 'the sight of a locomotive steaming across some of the principal streets in Leeds was so entirely novel that the spectacle caused no small amount of amazement'.

23 tanneries

The leather industry continued to grow, concentrated at Buslingthorpe, Meanwood and Kirkstall. Oak Tannery on Kirkstall Road was built in 1876, complete with the still-present bull's head over the door. Oak Tannery processed over 20,000 hides a year and was just one of 23 tanneries in Leeds.

200 cabinet makers

There was also a strong furniture industry in the mid-1870s. There were over 200 cabinet makers and 100 manufacturers, supported by the timber trade with sawing, planing and moulding mills. During this time the town was also a centre for printing, paper manufacture, glass production, dyeing, drugs and pharmaceutical products.

The railway and industry grew together in Leeds – along with the local waterways. Coal, corn, building stones, pottery ware, lime, salt were all towed by the steam tugs of the Aire and Calder Navigation Company. Goods leaving Leeds could be loaded onto steamers at Goole within 10 hours – or within 13 hours at Hull.

The impact on the people of Leeds

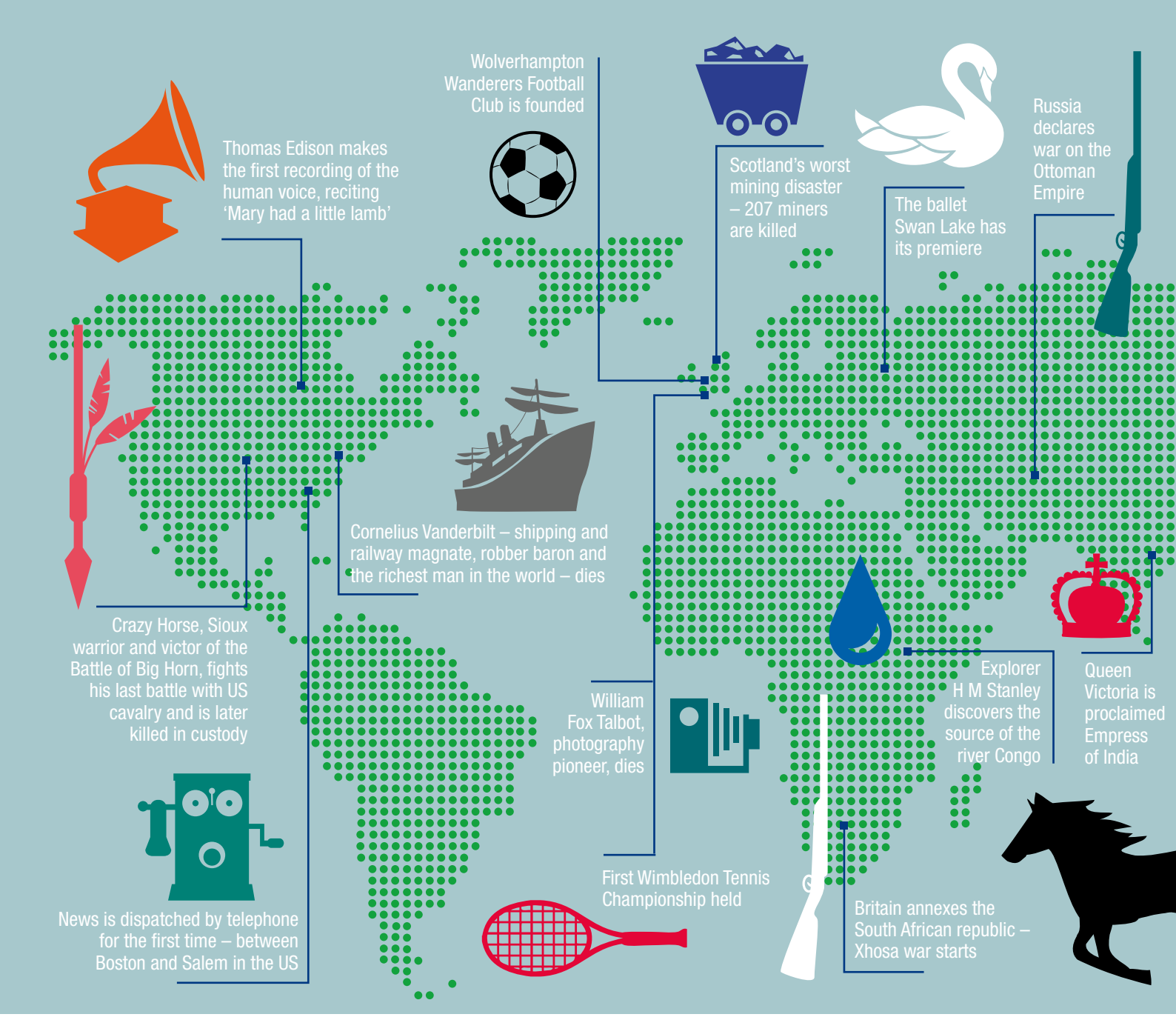
But what of the people of Leeds? During this time more and more of the middle classes moved out to escape the pollution in the city centre. Many moved to the North West of Leeds. Meanwhile shops in the centre offered a growing range of goods, clothes and fashions, providing the trappings of middle-class gentility. In 1868 Boar Lane was widened under the first road improvement scheme. Boar Lane then had the finest, most fashionable shops in Leeds.

But the working classes, the overcrowded cottages, back-to-backs, cellar dwellings and lodging houses remained notorious for their cramped and insanitary conditions.

The lending department of the Central Library opened in 1872. Yet many children lacked even a basic education.

In 1864, Leeds was condemned as 'one of the most benighted towns educationally in the country'. In 1870, a census of children showed 48,787 children should be attending school but there was only accommodation for 27,329. Compulsory education was at the discretion of the local area. Only in 1876 did Parliament make attendance compulsory up to the age of ten. Significant progress in providing education places in Leeds did not happen until after 1877.

So, in summary, the period 1866–1877 was an era of increased smoke pollution, sanitary problems and overcrowding for both middle and working classes. But it was also a period when some of the middle classes were able to move out. For the working class, despite improvements in the city, there remained appalling workplace experiences and squalid living arrangements. Even in 1921 the Yorkshire Evening News could still report that 'smoke and Leeds are almost as inseparably connected in the public mind as bacon and eggs'.



Public health in Leeds 1866–1877

THE MAJOR PUBLIC HEALTH CHALLENGES IN LEEDS DURING THIS PERIOD OF POPULATION AND INDUSTRIAL GROWTH WERE INFECTIOUS DISEASES AND INFANT MORTALITY.

The focus for action was on:

a lack of sanitation – both sewerage and refuse disposal

There was also increasing awareness of the impact that people's work had on their health.

Pollution and squalor

So what was the situation in Leeds? Alongside the continued growth of industry and population – and growing wealth – came increased levels of pollution and squalor. In 1866, 50 dead animals were fished out of the River Aire every day. A Royal Commission that year heard about the River Aire being dumped with 'hundreds and thousands of tons per annum of ashes, slag, cinders, refuse from mines, chemical works, dyeing, scouring and fulling, worsted and woollen stuff, shin cleaning and tanning, slaughter, house garbage and sewerage from towns and houses'.

What happens in 1877?

HERE ARE SOME OF THE KEY EVENTS AROUND THE WORLD IN THE YEAR OF DR GOLDIE'S REPORT.

In 1865, only 3,221 houses in Leeds had water closets so the majority of the population used middens. Carts carried away the midden filth to be deposited alongside thousands of tons of waste on the water side in Leeds. All this was eventually taken away by boat. By now Leeds was the fourth biggest provincial town behind Liverpool, Manchester and Birmingham.

Of course Leeds as a major town wasn't unique in struggling to deal with overcrowding and poor sanitary conditions as well as the diseases and premature deaths that went hand in hand with poor living conditions. But Leeds was slow to face up to its problems and to take action. Leeds Council compared very unfavourably with those of Liverpool, Birmingham and Manchester. For example, the Council obtained powers of slum clearance in 1870. Yet by 1885 a grand total of 247 houses and 67 cellar dwellings had been demolished. A pitiful effort.

Conditions drew national condemnation

The problems in Leeds were getting national attention. A typhus outbreak in 1865 killed several doctors at the House of Recovery in Vicar Lane. In 1865, the medical department of the Privy Council under Sir John Simon (in essence the first Chief Medical Officer for the country) visited Leeds. Despite efforts by Leeds Council to suppress his findings, the nation's Chief Medical Officer published them for all to see. They were damning.

> "The town presented 'a surprising sight, bringing to remembrance the conditions of many English towns of twenty years ago'. The public health provision is 'in proportion to the importance of the town… perhaps… the worst which has come to the knowledge of the department'."

The challenges in the early days of public health

Leeds Council did finally take action and in 1866 appointed its first Medical Officer of Health, Dr Robinson. By contrast, Liverpool and London had appointed Medical Officers of Health nearly 20 years earlier. Leeds had now caught up with 26 other major cities in the country which had also appointed Medical Officers of Health since then. It would take the Public Health Act of 1872 to make the appointment of a Medical Officer of Health a legal requirement. So in that sense, at least, Leeds was ahead!

The major changes that were needed for the city didn't take place until the 1890s. Only then were there huge slum clearances, a re-planned city centre, a vastly improved water supply, and a leap forward in education provision for children. This came about as a result of a change in administration, a change in personnel, a broader social representation within Leeds Council, and more acceptance of central government involvement, along with public opinion more favourable to welfare provision.

Victorian values of the time

For Dr Robinson and Dr Goldie in the years between 1866 and 1877, work must have been doubly challenging. Not only did they have to contend with almost unimaginable public health issues, but they also worked in an environment where self-help, individualism, a jealous rejection of central government involvement in municipal affairs and minimising demand on the ratepayer were seen as virtues.

In 1877 Dr Goldie railed against this attitude. He was confident that isolation hospitals for infectious diseases would save lives and money. But in answer to why such hospitals weren't being developed, he commented that:

49,000 visitors

There was interest among the population in improving sanitation. An 1871 exhibition of the latest water closets and other improvements drew 49,000 visitors in just six days.

in 6 days

> "The question invariably loses headway as soon as the pound, shillings and pence element comes to be looked at."

But still Leeds was considered 'notoriously unsanitary' and subject to more national visits. Dr Robinson continued to battle on against the 'potency for evil', by stopping the spread of infectious diseases through isolation, cleansing and disinfection and by combating 'ignorance and carelessness'. In 1870 Dr Robinson bemoaned the poor 'continuing to sell their clothing' and he recognised the human consequences of infection:

> It is something more than mockery to hear a mother express her resignation to Divine dispensation of disease while bearing in her arms the infant at her bosom to a neighbour's house whose children are stricken down with scarlatina or some other equally communicable disease.

The second battle front for Dr Robinson was the removal of the common privy and the implementation of a proper sewerage system. An idea of the reality of Leeds at the time can be gleaned from Dr Robinson's 1871 report. Night scavenging, the collection of 'night soil', had been contracted out by the Council with disastrous results. The service came back into the Council and in eight months 14,991 ashpits were emptied, containing 45,307 tons of manure and rubbish, at a cost of £7,485. The sale of this raised £4,183. Dr Robinson took some satisfaction when slums were removed or ashpits extinguished. In an eloquent phrase in 1871, Dr Robinson wrote 'an impression might be created that the enemies to human life had been quietly allowed to take the citadel whilst its defenders slept' and he wanted his actions to counter these enemies.

However, it is in Dr Goldie's report of 1877 that there are the first signs of optimism.

Death rates were now beginning to fall, with almost 1,500 fewer deaths per year than just two years previously. Importantly for Dr Goldie, the decline was in infectious diseases and therefore in preventable deaths. The significance of this was not lost on the doctor, who said of Leeds:

> Let's hope that the period begins a new era in its health history.

The challenges for public health in Leeds in 2013

On that positive note from Dr Goldie, let us now move forward to look at the challenges we currently face. The first section of my report looks in more detail at the themes of infectious diseases and air quality today and the action we are taking in these areas to protect people's health. The second part considers the challenges and progress in reducing the number of infant deaths in Leeds. The third section looks at the role of the school nursing service in protecting children's health, and in the final section, I draw together recommendations from this year's report.

Sources

Fraser, D. *(1980)* ***A History of Modern Leeds.*** *Manchester: Manchester University Press.*
Lambert, R. *(1963)* ***Sir John Simon 1816–1904, and English Social Administration****. London: MacGibbon & Kee.*
Medical Officer reports of Dr M K Robinson and Dr G Goldie from 1866 onwards.
Burt, S. and Grady, K. *(1994)* ***The Illustrated History of Leeds****. Derby: Breedon Books.*

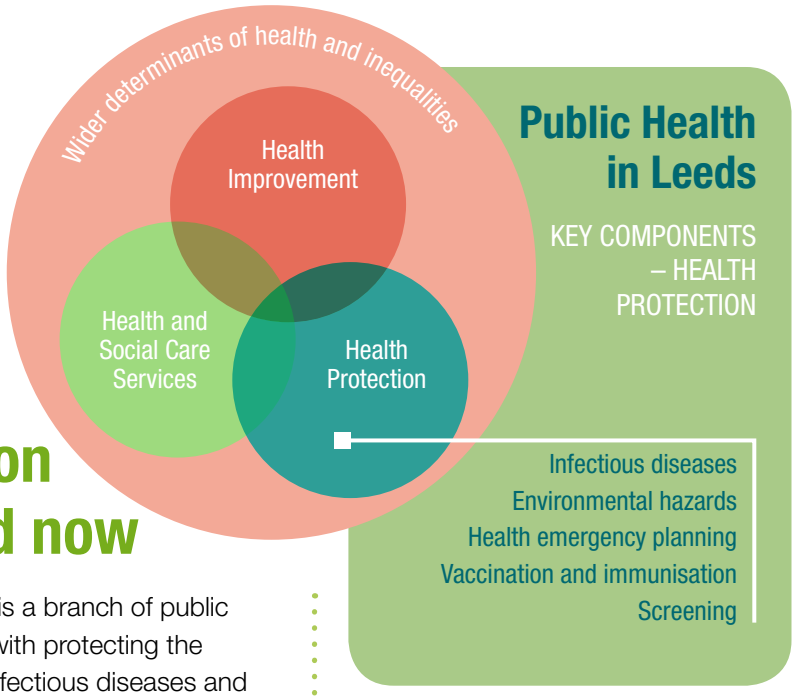
Protecting people's health

Dr Simon Balmer, Consultant in Public Health Medicine

Health protection then and now

Health protection is a branch of public health that deals with protecting the population from infectious diseases and other threats to their health. It covers:

- preventing and controlling infections (for example, healthcare associated infections such as MRSA and C. diff, tuberculosis, blood-borne viral infections such as hepatitis B and C and HIV, and sexually transmitted infections)
- vaccinating and immunising people against a range of diseases
- health screening (e.g. for cancer)
- emergency planning for major incidents and outbreaks of disease
- controlling environmental hazards (e.g. radiation, air and land pollution).



Here, I look at what's happening in Leeds to address some of these issues today and compare this to the situation in Dr Goldie's *Report on the Sanitary Condition of Leeds for the Year 1877*.

I am grateful for contributions from my colleagues Dr Mike Gent, Consultant in Communicable Disease Control for Public Health England, on tuberculosis, and Jon Tubby, Environmental Protection Services Manager, Leeds City Council, on air pollution.

Communicable disease from 1877 to 2013

A communicable disease is a disease that can be passed on from one person to another. Dr Goldie's report shows that communicable diseases were a major cause of death in Leeds in Victorian times. In these pages, I'll highlight some of the changes that have taken place since 1877. I also hope to show that health protection is still a key issue today for public health and local government. I'll focus mainly on communicable diseases but I'll also look at air pollution, another public health issue picked up by Dr Goldie.

In 1877 diseases thought to be contagious were described as 'zymotic'. Of these, seven are described in Dr Goldie's report as either the 'most infectious' or 'most fatal'.

These seven diseases – scarlatina, diarrhoea, measles, fevers, smallpox, diphtheria and whooping cough – contributed to 810 of the 970 'zymotic' deaths in 1877 (Goldie, Table IV). This was 1 in 8 of all deaths in Leeds.

Deaths from communicable diseases 2002-11

Year	C. Diff	HIV	Meningococcal	MRSA	Pneumonia	Septicaemia	Total
2002	18	1	4	1	407	19	450
2003	14	3	4	1	362	17	401
2004	18	1		5	364	20	408
2005	23	1	1	1	351	20	397
2006	29	6		1	300	22	358
2007	50	2		3	337	29	421
2008	61	1	3	2	366	13	446
2009	17	2		1	307	21	348
2010	8	1	3	2	298	11	321
2011	16	2		1	301	19	339
Total	254	20	13	18	3393	191	3889

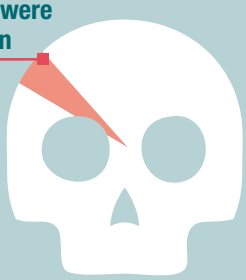
TABLE IV.

ANALYSIS OF MORTALITY FROM THE SEVEN PRINCIPAL ZYMOTICS DURING TEN YEARS.

Year.	Scarlatina.	Diarrhœa.	Measles.	Fevers, including Typhus, Enteric, Relapsing, and Continued Fever.	Small-pox.	Diphtheria.	Whooping Cough.	Total.	Death Rate per 1000 for each Year.
1867	71	407	28	257	46	28	168	1005	4·3
1868	181	739	95	314	17	28	79	1453	6·0
1869	337	414	26	237	42	18	75	1149	4·1
1870	339	657	179	345	9	23	187	1739	6·3
1871	108	663	92	341	41	20	146	1411	5·3
1872	143	616	131	314	268	10	201	1683	6·3
1873	600	474	42	223	100	24	91	1554	6·2
1874	663	484	171	207	37	24	141	1727	6·2
1875	234	559	78	146	20	21	222	1280	4·5
1876	322	478	142	183	4	17	112	1258	4·3
Average for 10 years	299	549	98	256	58	21	142	1425	5·3
1877	151	206	112	112	3	16	210	810	2·7

5.3% deaths were from infection

LEEDS 2011



Today's equivalents of the seven main zymotic diseases account for very few of the total deaths in Leeds. In 2011, 339 people (5.3 percent of total deaths in Leeds) died from infection. Smallpox has been eradicated. Scarlatina is a mild disease, which tends not to cause serious illness. And diphtheria, although not entirely eradicated, is extremely rare in England.

On the other hand, several conditions which we now know are infectious and treatable were not seen in this way by Dr Goldie and his contemporaries. One of these is tuberculosis or TB. My colleague Dr Mike Gent discusses this later in this section.

Fortunately, our understanding of communicable diseases, their causes and treatments has moved on since 1877. In my opinion, the recent setting up of a national public health agency, Public Health England, will further help to tackle TB and other communicable diseases. A national agency will raise awareness of the need to deal with health protection threats such as TB. And it will galvanise professionals and politicians into action. Leeds City Council, with its new public health responsibilities, should help drive this forward.

Death rates have fallen between 1877 and 2013, and most of this decline is due to fewer deaths from infection.[1] But while infections today cause a small number of deaths, they still cause harm. Yet many infectious diseases are preventable. Simple measures such as vaccination could reduce illness and deaths from infection still further. I'll say more about this later when I talk about measles and whooping cough.

What has changed since 1877?

What's brought about the decline in deaths from infections since 1877? Changes in the law and improved knowledge of hygiene are key factors. Concrete improvements such as clean water, good housing, better nutrition and medical prevention and treatment have also played a part. From 1872 local authorities now had a duty to appoint Medical Officers in charge of public health. However, one key piece of legislation was the Public Health Act of 1875. This came into force just two years before Dr Goldie produced his 1877 report and covered sewerage and drains, water supply, housing and disease. Local sanitary inspectors were appointed to look after slaughterhouses and prevent the sale of contaminated food. Local authorities were ordered to cover sewers, keep them in good condition, supply fresh water to their citizens, collect rubbish and provide street lighting. The 1875 Act also enforced laws about slum clearance, provision of sewers and clean water, and the removal of nuisances.

For a helpful list of public health legislation between 1834 and the early 20th century, see www.bbc.co.uk/bitesize/standard/history/1830_1930/public_health/revision/3/. I have drawn on this list in the paragraph above.

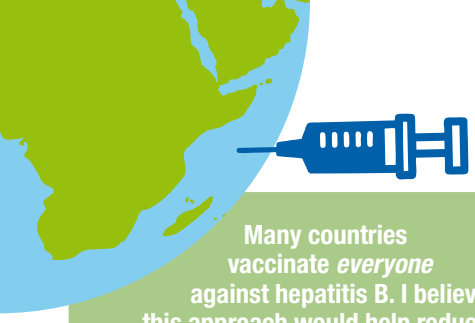
Dr Goldie's 1877 report focuses on births and deaths and some of the environmental factors that influence health such as 'smoke nuisance'. But there's not much information about the characteristics of Leeds people. We know little, for example, about their ethnic origins, age, or how personal behaviour and disease might be linked.

We now know much more about the way behaviour, upbringing, education and culture all play a part in health. For example in recent years the population has become far more mobile. Many more people travel by air and migrate to other countries to work. This change in behaviour means communicable diseases now move across the world far more quickly.

New infections are also bringing new threats. For example, the wide use of antibiotics has produced many benefits but has also resulted in drug resistance. This has created diseases that are more difficult to treat than just a few years ago. For example, multidrug-resistant TB takes longer to treat and needs more expensive drugs than 'standard' TB. Very drug-resistant TB needs even more aggressive treatment, which is less likely to be successful.

Some behaviours can also increase the spread of infection. People who inject drugs and share needles, for example, increase their risk of getting viruses such as HIV and hepatitis B and C. None of these infections were known in 1877. Although they're now treatable, these infections all need positive action to reduce their impact. Raising awareness and educating people can help reduce the spread of these blood-borne viruses. Early detection can improve outcomes.

I've mentioned the importance of vaccination. For example, vaccination is advised for groups who are more at risk of infection from hepatitis B, such as injecting drug users, their partners and children, people with chronic kidney and liver disease, sentenced prisoners, and healthcare workers who come into contact with patients' blood or blood-stained fluid. But a system that targets only certain groups makes the English vaccination programme very complicated.

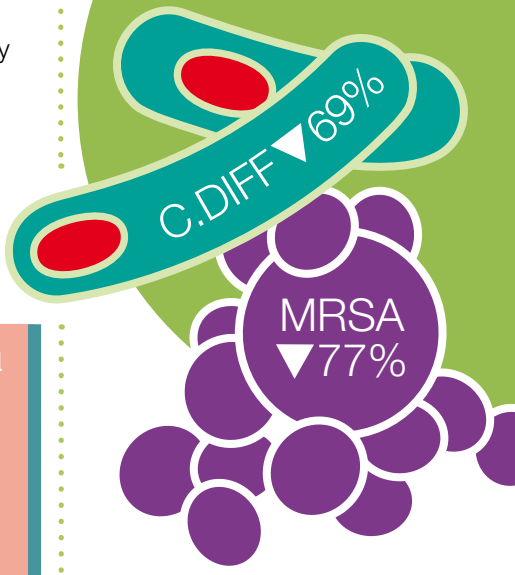


Many countries vaccinate *everyone* against hepatitis B. I believe this approach would help reduce the number of people with hepatitis in Leeds and across England.

Dr Goldie discussed environmental factors which influence health, such as poor drainage, time of year and the polluted atmosphere in parts of Leeds. But he didn't consider the quality of medical or nursing care.

There have been several recent scandals around poor care for those who are ill, and evidence that this has caused early death and reduced quality of life. At Stafford Hospital, for example, many people died from avoidable infections. This scandal highlighted concerns about the levels of infections linked to health care. The Mid Staffordshire NHS Foundation Trust Public Inquiry[2] will hopefully lead to safer care.

It's pleasing to note that in Leeds infections due to MRSA and C. diff have been falling significantly.



It's vital that focus on this work continues. Health care providers – doctors, nurses, care assistants, paramedics and other carers – have both an individual and collective moral responsibility to practise in a safe way:

> First do no harm
>
> *commonly attributed to **Hippocrates***

CASE STUDY

Michelle Higgins
Infection Prevention and Control Nurse Specialist in Public Health

My role in Leeds

I work across Leeds alongside teams from Public Health England, Leeds Community Healthcare Trust and the Leeds Teaching Hospitals Trust. We aim to reduce the risks associated with infection across the city. We also form part of the response to the threat of outbreaks like pandemic flu and, more commonly, gastroenteritis.

Community infection prevention is a relatively new speciality. We have been successful in reducing the number of cases of infection overall. Unfortunately infections such as C. diff and MRSA, which were previously viewed as associated with a stay in hospital, are now seen at similar levels in our community. And these infections may occur in people who have had no prior contact with healthcare.

Many people with complex conditions which would previously have been managed in hospital are now being looked after at home. This is because of advances in medical treatment and a focus on looking after people in their own surroundings. Staff carry out highly skilled procedures in less than ideal environments, which can't be controlled in the same way as a hospital ward. We have to make sure that they are trained in infection prevention and equipped to deliver care the correct way every time. This is an important step in reducing the risk of infection in these patients.

We have led public campaigns to make people aware that everyone has a role in preventing infection. They can do this through simple measures like hand washing and understanding when they are at risk of passing infection on to others, particularly during outbreaks of viral gastroenteritis. We also devote a lot of time to investigating cases to find out what could have gone better or which events could have been foreseen. This helps to inform how healthcare staff do things in the future to prevent the same thing happening again.

Recently we reviewed infection prevention and control practice at a care home where a number of residents had suffered with diarrhoea. We weren't familiar with the cleaning product used in the home. We decided to investigate whether the manufacturers' claims of being active against a number of bacteria and viruses stood up to the scrutiny of disinfection experts at the Health Protection Agency (now Public Health England). As a result, the home changed their cleaning product and the manufacturers agreed to work to provide evidence of their claims.

A large number of NHS care providers in our community are now providing services such as vasectomy, dermatology, and ear, nose and throat services. This means that we must ensure that key principles are embedded in practice. Prevention is better than control.

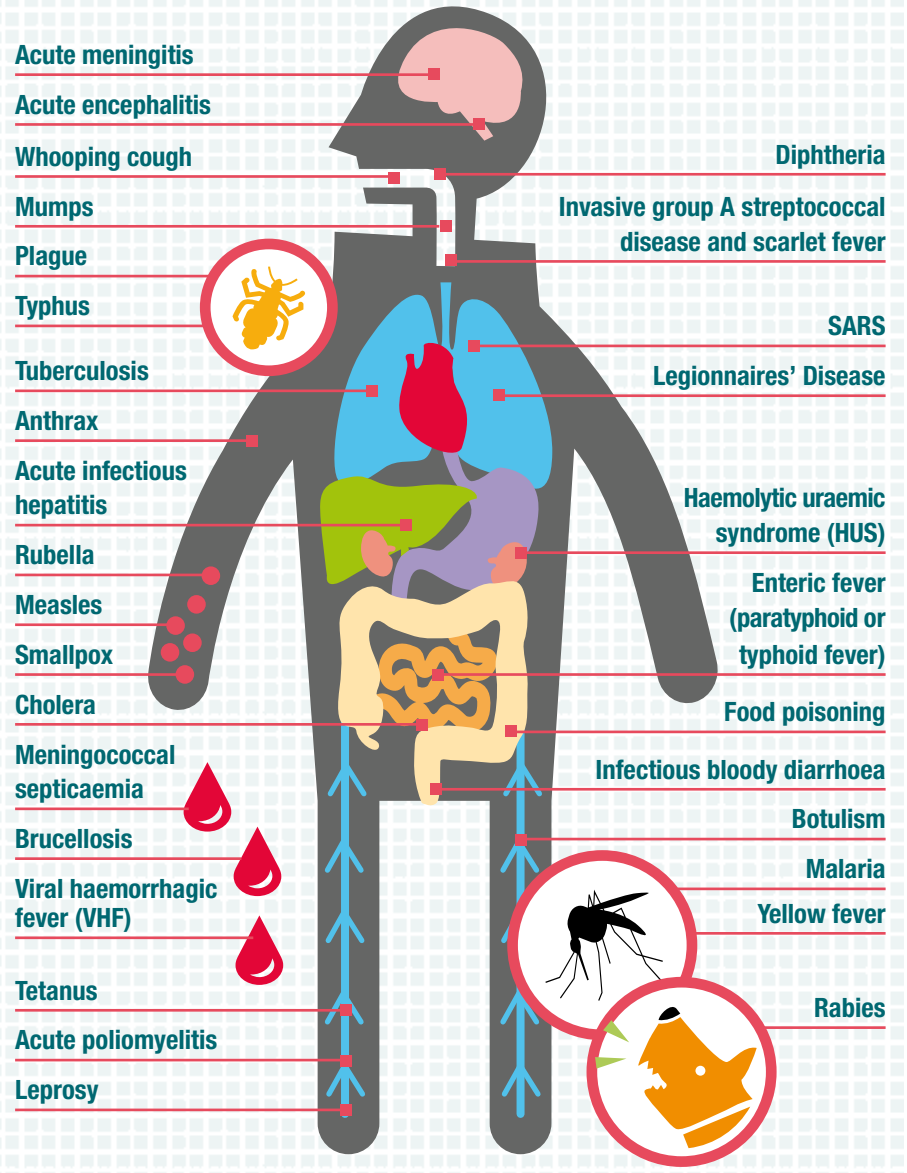
The importance of surveillance

Regular surveillance helps us to keep track of infectious and other diseases in the Leeds population. 'Surveillance' is the systematic regular collection, analysis, interpretation and dissemination of data for a given population. This allows us to detect changes in patterns of disease or factors that cause disease. We can then take action if certain criteria or thresholds are met.[3] I'll try to show what this rather dry definition means and why it's important, using 'flu' as an example.

Every winter, the Health Protection Agency, now part of Public Health England, regularly gathers data about people who see their GP for 'flu-like illnesses'. This is anonymous data from GP computer systems and laboratories.[4] The information is organised and sent out to doctors and health service managers. It lets them know how common these illnesses are at a particular time and place. This gives a picture of how illnesses are spreading in communities at certain periods. It helps clinicians make more informed decisions about preventing and treating diseases. This national influenza surveillance system links to a bigger international one. The World Health Organisation (WHO) collates data from around the world.[5] From this, WHO identifies the types of influenza which are common in the southern hemisphere during their winter. Based on these findings, in February each year WHO advises countries in the northern hemisphere about which strains to include in the flu vaccine. This means an effective vaccine can be developed in time to protect people for winter.

Much of the power of Dr Goldie's report relies on his use of surveillance and the data he collected and analysed. Among these data were death registrations, introduced in 1837 as part of the national registration process. Episodes of disease were set out in the reports of inspectors he worked with. By analysing this routinely collected information, he could make powerful and informed observations about the number of deaths from disease. He could then make recommendations and measure whether there had been local improvements in health. For example in 1877, he noted an 8% fall in deaths from preventable diseases compared with the average over the previous 10 years.

Notifiable diseases as defined by the Health Protection (Notification) Regulations 2010



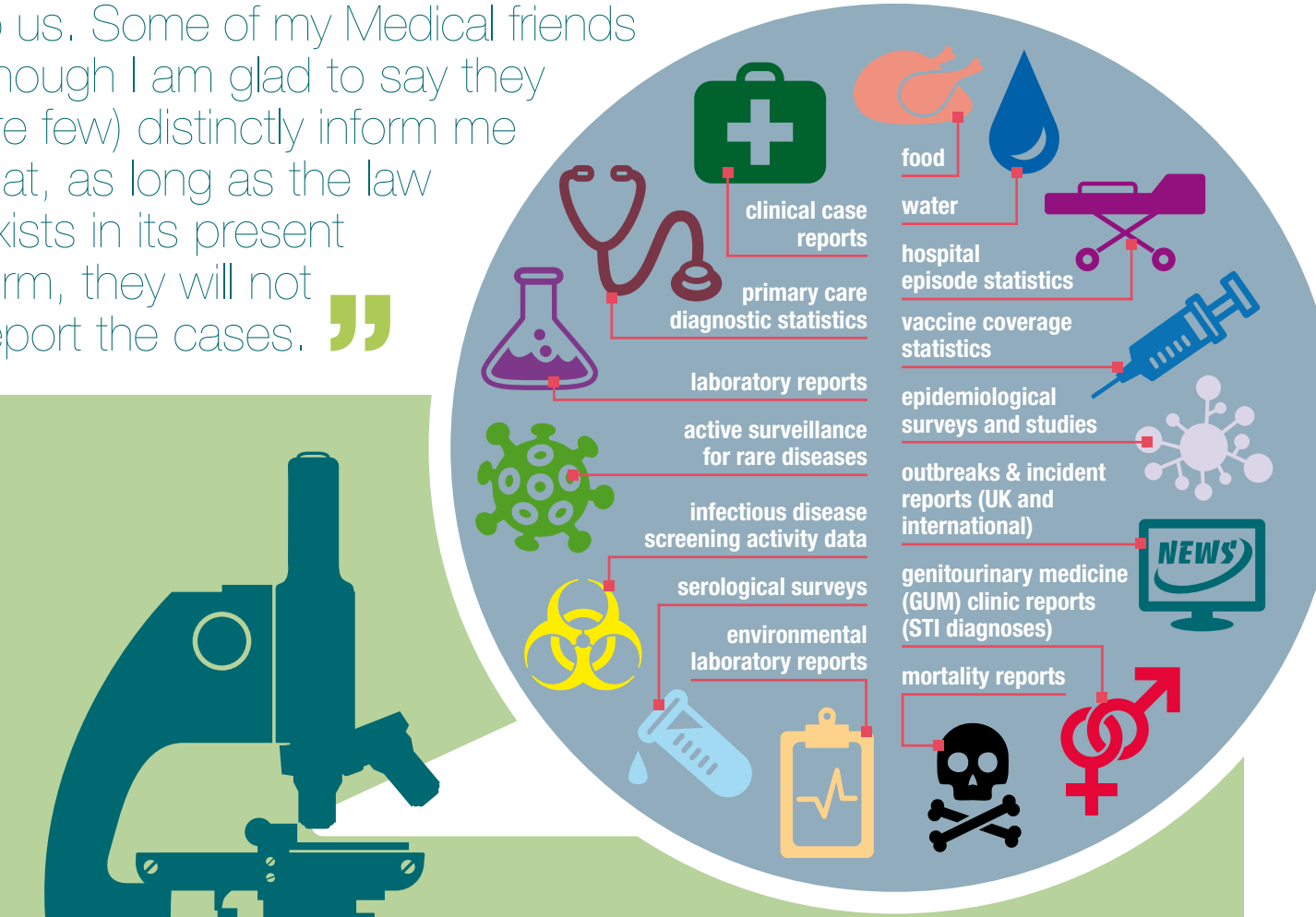
The principle of collecting standardised information to inform action remains as relevant now as in 1877, but surveillance has certainly improved over recent years. Dr Goldie noted flaws with surveillance in his era and called for improvements:

> I shall not attempt to give the proportion of deaths to the number of cases of the disease, as they occurred in Leeds during 1877, and for the simple reason that we have not all the cases reported to us. Some of my Medical friends (though I am glad to say they are few) distinctly inform me that, as long as the law exists in its present form, they will not report the cases.

The government eventually did introduce powers to prevent the spread of contagious diseases. Under the Infectious Disease (Notification) Act 1889, doctors had to notify particular diseases to the local authority. The medical officers could then take action. Robust surveillance of communicable diseases developed from this.

Recent law and regulations still require doctors to notify suspected diseases. Regulations which came into force in 2010 strengthen the updated Public Health (Control of Disease) Act 1984. They take a wider and more flexible approach to hazards. If an infection or substance is thought to present a significant risk to human health this must be notified, even if it's not listed.

Below are some of the sources of information used by Public Health England for infectious disease surveillance. You can see the immense breadth of information gathered.[6]



Some of the sources used by Public Health England for infectious disease surveillance

So although infectious diseases do not cause many deaths in Leeds today, the threat from communicable diseases has not gone away. New factors, such as the rise in mass travel, increase the risk of spreading diseases to different parts of the world. We need – and have developed – more sophisticated surveillance systems to counter these threats. Surveillance is intended to provide:

> "the right information at the right time and in the right place to inform decision making and action."[7]

This is becoming increasingly challenging but new surveillance systems, both national and international, have been introduced in recent years. These use a wide variety of data sources. New technology is helping this development. We now use computer databases and data collection via the internet and mobile phones, and innovation is continuing. For example data collection from social media such as Twitter[8] and Google[9] is being trialled as a potential early warning system for the spread of viruses. If he were in Leeds today, Dr Goldie might find some of the current technology alien, but he would certainly recognise the need for robust surveillance and be pleased to find it in place.

Recommendations

Deaths from communicable/infectious diseases are falling but they are still an issue.

- The Leeds Health and Wellbeing Board should establish a Health Protection Board. This would raise awareness of communicable diseases and other environmental hazards and deal with the issues as they arise.
- The Leeds Health Protection Board should:
  - adopt national guidance on tackling antibiotic resistance
  - promote this guidance to health professionals and the public
  - review local surveillance mechanisms and ensure we can deal with the new challenges posed by drug-resistant organisms and new infections.

Measles and the national MMR catch-up campaign

This article describes the MMR national catch-up campaign. It highlights the importance as well as some of the problems of running a successful vaccination programme.

What is measles?

Measles is an illness caused by a viral infection.

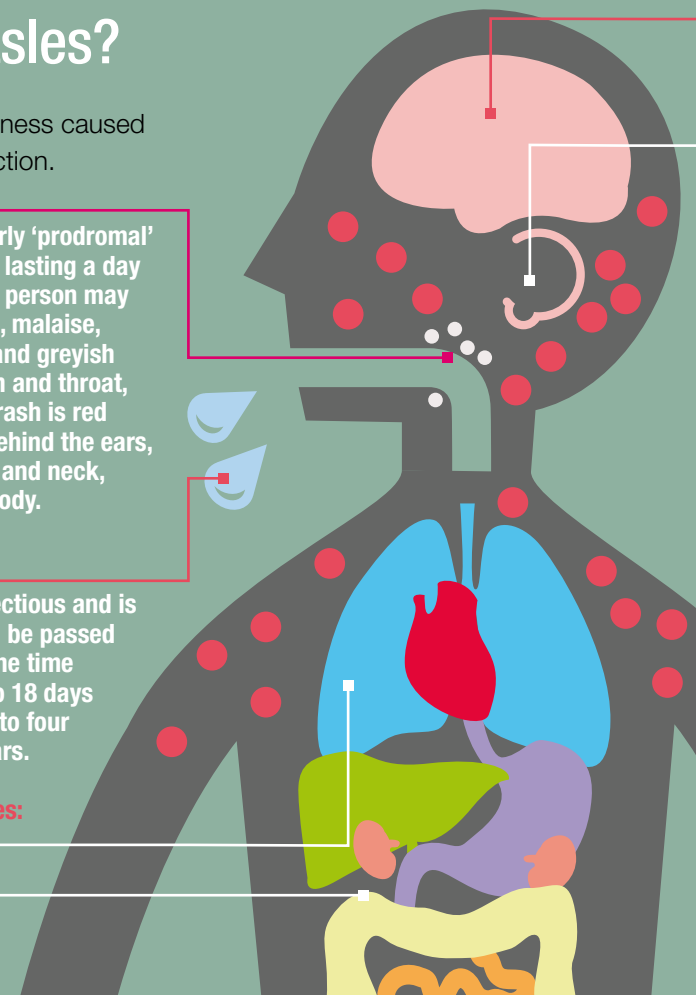
There is an early 'prodromal' phase, usually lasting a day or so, when the person may have fever, cough, malaise, cold-like symptoms and greyish white spots in the mouth and throat, followed by a rash. The rash is red brown. It usually starts behind the ears, then spreads to the head and neck, eventually covering the body.

Measles is extremely infectious and is spread by droplets. It can be passed on to other people from the time when the rash starts (7 to 18 days after becoming infected) to four days after the rash appears.

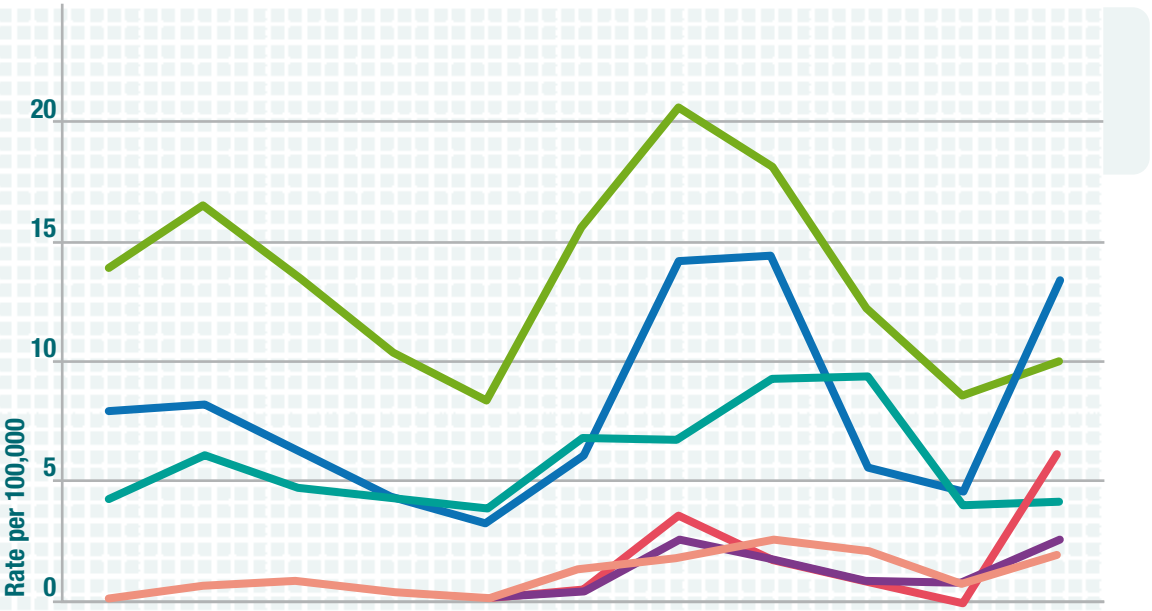
Measles commonly causes:

Pneumonia (1–6%)

Diarrhoea (8%)



Measles rates by year – Leeds, West Yorkshire and UK

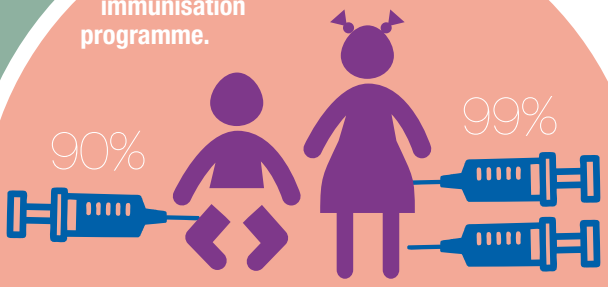


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Notified Leeds	8.0	8.2	6.4	4.3	3.3	6.1	14.2	14.4	5.7	4.6	13.3
Confirmed Leeds					0	0.5	3.5	1.8	0.8	0	6.1
Notified West Yorkshire	13.9	16.5	13.6	10.4	8.4	15.7	20.7	18.1	12.2	8.6	10.1
Confirmed West Yorkshire					0.1	0.3	2.6	1.8	0.9	0.8	2.5
Notified Eng & Wales	4.3	6.1	4.7	4.4	3.9	6.9	6.8	9.3	9.4	4.0	4.2
Confirmed Eng & Wales	0.1	0.6	0.8	0.4	0.2	1.4	1.8	2.5	2.1	0.7	1.9

Rarer complications include convulsions (0.5%) and brain inflammation (1 in 1,000 cases)

Ear infections (7–9% of cases)

MMR vaccine is given as part of the routine childhood immunisation programme.



Children receive two doses, the first at between 12 and 13 months and the second between three years four months and five years old. One dose of MMR gives about 90% protection. Two doses give up to 99% protection against measles. The aim is to vaccinate 95% of the population to minimise the spread of measles in communities.

About 1 in 100 cases are admitted to hospital and 1 in 5,000 dies.

The background

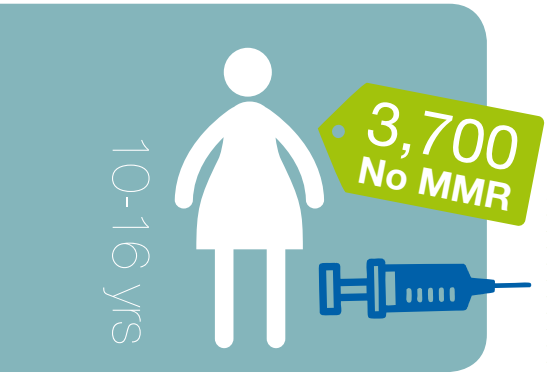
In the last two years there have been several very large measles outbreaks in England and Wales. The most recent was in Swansea, South Wales in spring 2013. These outbreaks were related to an increasing number of people who hadn't been vaccinated against measles with the MMR (measles, mumps, rubella) vaccine. People who haven't been vaccinated are at risk of catching measles if they come into contact with the virus.

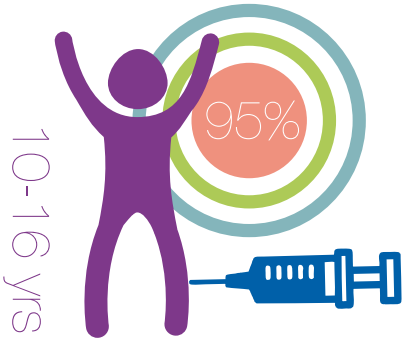
Dr Goldie recognised this problem back in 1877. In his report, he reviewed the effectiveness of vaccination, supported its role and asked why attempts were being made to abolish or reduce vaccinating powers.

He posed the question:

> Could anyone compute the comparatively infinitesimal danger, with the enormous safety resulting from vaccination?

As if to prove his point, the 1998 MMR vaccine scare, which incorrectly linked MMR to the development of autism,[10] was followed by a significant decline in vaccine uptake across the country, including Leeds. As a result, measles cases have recently increased (see above). This rise is mainly due to the proportion of 10 to16 year olds who were not vaccinated in the late 1990s and early 2000s, when concern about the vaccine was at its height.





National MMR catch-up campaign

Although there has been no large measles outbreak in Yorkshire in recent times, there has been an increase in single cases and some small outbreaks. This included an outbreak in Leeds in 2011 that involved students requiring hospital admission.

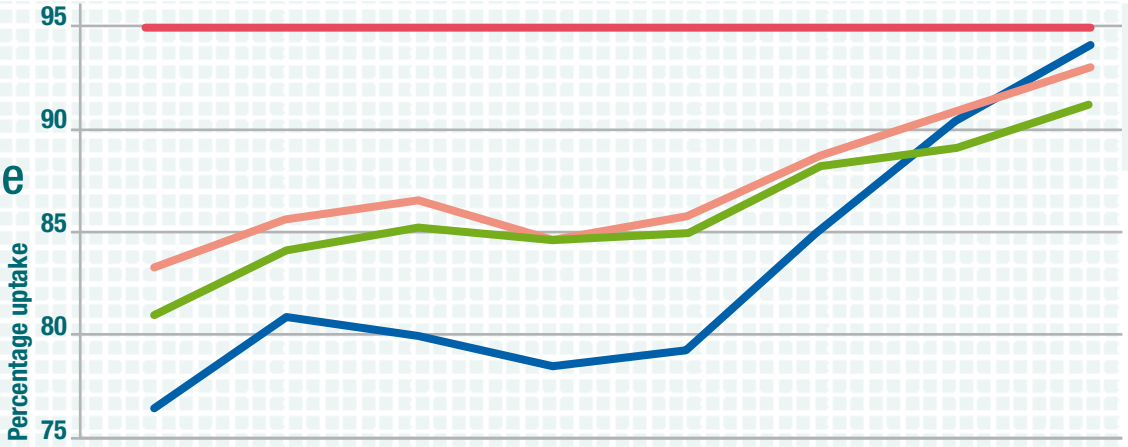
There have been considerable efforts to increase the uptake of MMR vaccination over the last five years. These include catch-up campaigns and awareness-raising on local radio, newspapers and TV. Over the last year in Leeds coverage of MMR as part of the routine childhood vaccination programme has been particularly good, reaching the 95% level recommended by WHO. But, as I've said, coverage of older age groups has not yet reached 95%. In Leeds about 3,700 children aged 10–16 have received no MMR. The lowest coverage of just under 90% is in those born in 2000 and 2001.

Following the major outbreaks in England and Wales, a national vaccination catch-up campaign was launched on 24th April 2013. A cohort of school-age children was identified as vulnerable to measles, particularly in London and the South East. The main aim has been to increase coverage in older children to the 95% levels achieved in younger children.

The campaign was designed nationally and overseen and driven by the new national organisations, NHS England and Public Health England. The initial stages of the campaign proved challenging, with a lack of clarity about 'who does what'. Initial information sent to health care managers and GPs gave an overview of the problem, explaining the potential risk of measles outbreaks and low coverage of MMR in 10 to 16 year olds. But this was not accompanied by clear information about how the programme was to be delivered. National guidance relating to GP payment rates and the part they were expected to play was not clear. Nor was it clear whether mass vaccination would take place in schools. Before April 2013 this would not have been so problematic because NHS structures had been in place for some time, and local roles, relationships and responsibilities for vaccination programmes were clear. Following the reorganisation of the NHS in April 2013, local organisations and staff groups (i.e. NHS England and Public Health England) were new.

It's too early to evaluate the outcome of the catch-up programme. I hope that MMR coverage levels for 10 to 16 year olds will reach 95%. I hope also that relationships, roles and responsibilities between organisations and individuals who organise, oversee and deliver vaccination programmes are made clearer. One key lesson has been learned. Vaccination remains an effective public health tool.

Uptake coverage of MMR vaccine (1st dose) at 2 years old



	2004	2005	2006	2007	2008	2009	2010	2011
Leeds	76.4	80.8	79.9	78.4	79.2	85.2	90.4	94.1
Yorkshire and Humber	83.2	85.6	86.5	84.6	85.7	88.7	90.7	93.0
England	80.9	84.1	85.2	84.6	84.9	88.2	89.1	91.2
95% target	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0

But it can only remain so if people believe in its effectiveness and agree to receive vaccination for the benefit of others in their community.

Recommendations

- The Leeds Health and Wellbeing Board should continue to emphasise the importance of vaccination programmes.
- Leeds City Council should work with Public Health England, GPs and Leeds Community Healthcare to communicate well with the public and ensure delivery of an effective service.

CASE STUDY

Amanda
Leeds resident
Catching measles after not being vaccinated as a child

I'm 43 and like to think of myself as pretty fit. I work out at the gym and go running about five times a week. I started with flu-like symptoms on a Friday after having a bit of a cough for a couple of days before. The cough became gradually worse and I took to my bed. Apart from doctor's appointments, I didn't get up for over two weeks.

On the Monday my GP prescribed dissolvable co-codamol for my sore throat and painful cough. By Wednesday I had a red rash on my face and then all over my body. The doctor thought it was an allergy to co-codamol and prescribed anti histamines and steroids. By now I was feeling the worst I've ever felt. I had a temperature, my throat felt like it was on fire and I had a constant tickly cough. The cough was so severe that my throat was numb with coughing, I was sick a couple of times and I wet myself often. The only thing that eased it was a warm drink. I lost my voice for about three days and my chest was so painful it affected my breathing. I had to move around slowly so I didn't cough too much and make myself sick. My eyes were very red and sore but not painful, probably because everything else was!

My doctor sent me for blood tests and a chest X-ray. Two weeks later, I was diagnosed with measles by the infectious diseases department. By this stage I was starting to feel a little better and could get up to have some food before returning to bed. My breathing was still laboured and I struggled even moving from room to room and getting up the stairs. I had lost over half a stone and my throat was very hoarse and raspy. I was diagnosed with a chest infection as a side effect of the measles, which took around eight weeks to clear.

I returned to work a month after the illness but still struggled with stairs and had to walk slowly to and from the station due to my chest and also the fear of coughing. I didn't return to the gym until six weeks after the illness and didn't run for eight weeks. Even now I feel my throat has not fully recovered. I didn't realise that I hadn't been vaccinated against measles as a child. Fortunately the rest of our household had been, so I didn't pass it on.

References

1 McKeown, T. (1979) *The Role of Medicine: Dream, Mirage or Nemesis?* Oxford: Blackwell, Blackwell (p.31)

2 http://www.midstaffspublicinquiry.com

3 Adapted from a paper on *'Improving public health surveillance systems'* by South East and Eastern England Public Health Surveillance Working Group, quoted in Department of Health (2012) Public Health Surveillance: Towards a Public Health Surveillance Strategy for England. London: DoH (p.12) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/127475/Towards-a-Public-Health-Surveillance-Strategy.pdf

4 http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733821514

5 http://www.influenzacentre.org/centre_GISN.htm

6 Department of Health (2012) *Public Health Surveillance: Towards a Public Health Surveillance Strategy for England.* London: DoH (p.59) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/127475/Towards-a-Public-Health-Surveillance-Strategy.pdf

7 ibid (p.5)

8 St Louis, C. and Zorlu, G. (2012) Can Twitter predict disease outbreaks? *BMJ* 2012; 344: e2353

9 http://www.google.org/flutrends/

10 Godlee, F., Smith, J. and Marcovitch, H. (2011) Wakefield's article linking MMR vaccine and autism was fraudulent (editorial). *BMJ* 2011; 342:c7452

Dr Mike Gent, Consultant in Communicable Disease Control for Public Health England

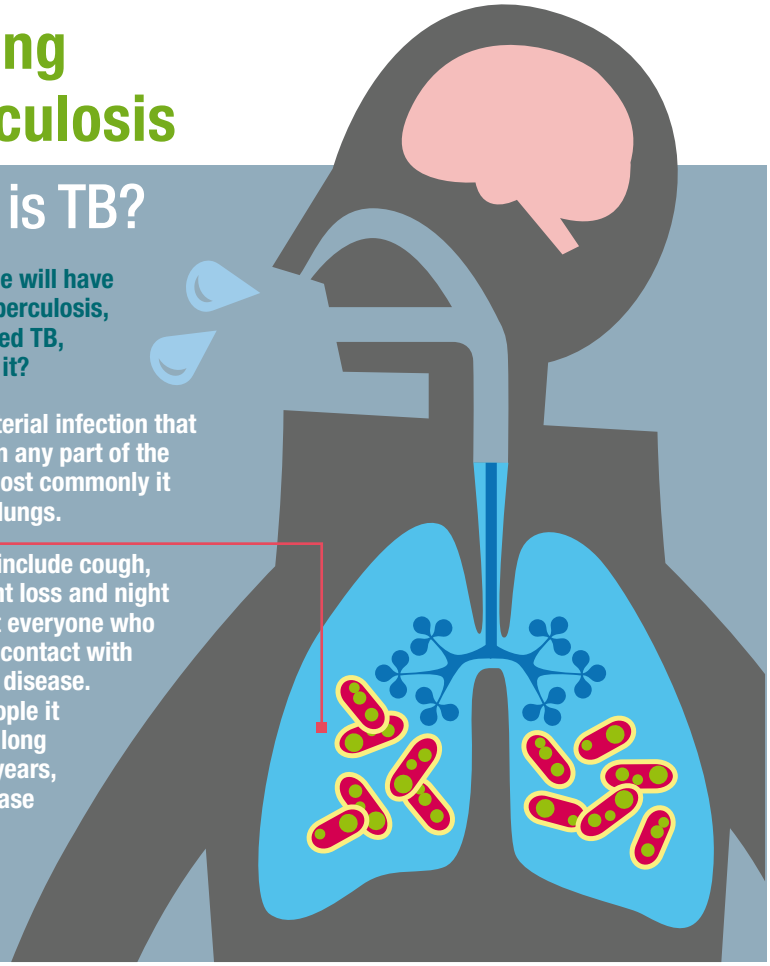
Fighting tuberculosis

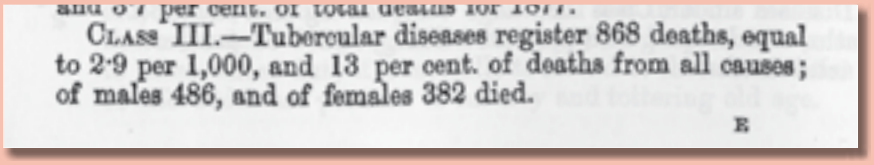
What is TB?

Many people will have heard of tuberculosis, usually called TB, but what is it?

TB is a bacterial infection that can occur in any part of the body, but most commonly it affects the lungs.

Symptoms include cough, fever, weight loss and night sweats. Not everyone who comes into contact with TB gets the disease. In some people it may take a long time, even years, for the disease to develop. This is so-called 'latent TB'.





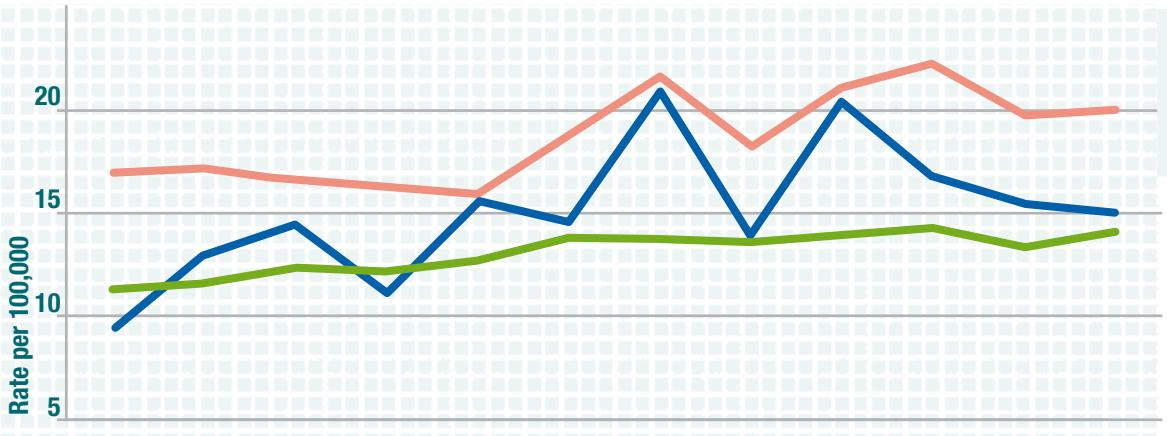
and 3·7 per cent. of total deaths for 1877.

CLASS III.—Tubercular diseases register 868 deaths, equal to 2·9 per 1,000, and 13 per cent. of deaths from all causes; of males 486, and of females 382 died.

E

The 1877 public health report makes interesting reading as TB only gets a brief mention (as 'tubercular diseases' on p.33) and is not included in the seven principal 'zymotic or preventable' diseases.

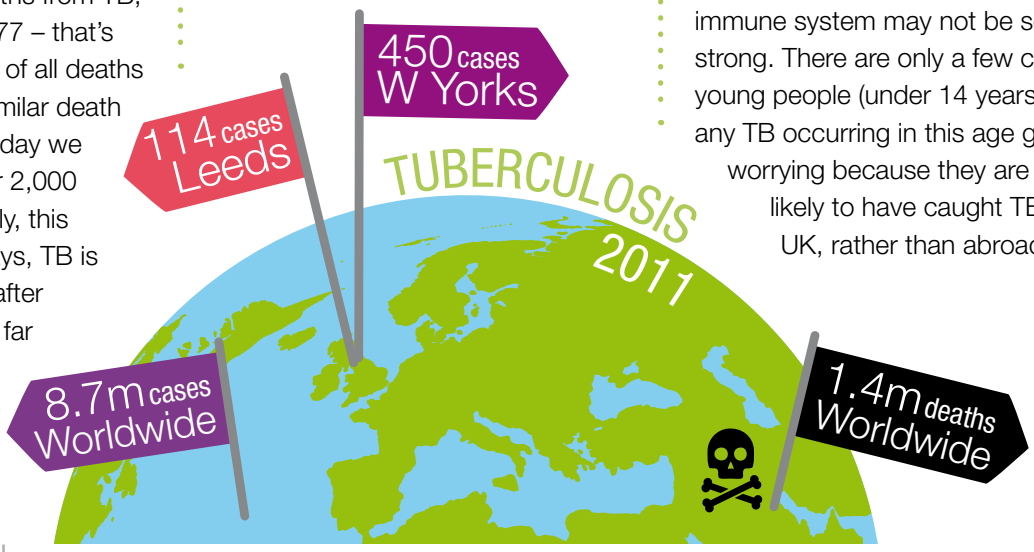
TB rates by year - Leeds, West Yorkshire and UK



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Leeds	9.5	13.0	14.5	11.2	15.6	14.7	20.9	14.0	20.4	16.8	15.5	15.1
West Yorkshire	17.0	17.2	16.7	16.4	16.0	18.6	21.7	18.3	21.2	22.3	19.8	20.0
UK	11.4	11.6	12.4	12.2	12.8	13.8	13.8	13.6	13.9	14.3	13.4	14.2

This may be because the cause of TB was not known at the time and, of course, there was no known cure. What is clear from the report is the very high number of deaths from TB, with 868 recorded in 1877 – that's 13% (more than 1 in 10) of all deaths in the city. If we had a similar death rate from TB in Leeds today we would be looking at over 2,000 deaths a year. Fortunately, this is not the case. Nowadays, TB is curable and, 136 years after the 1877 report, we see far fewer cases of TB and only a small number of deaths (66 between 2000 and 2011).

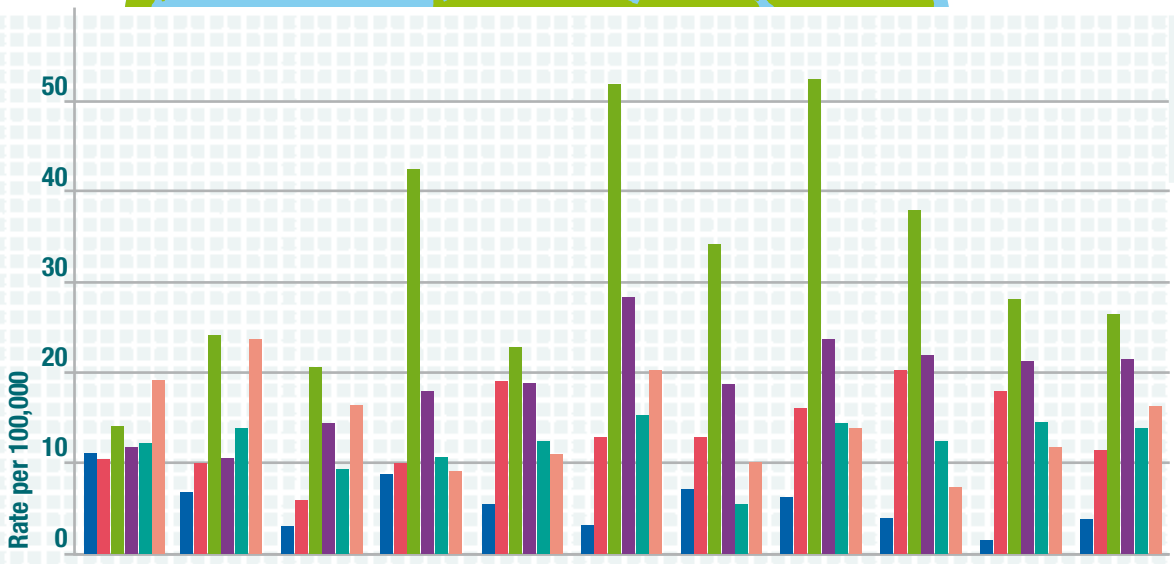
Because of the large fall in the number of cases many people think we no longer need to be concerned about TB. But this isn't true. In 1993 WHO declared TB a 'global emergency'. They estimate that there were 8.7 million cases of TB worldwide and 1.4 million deaths in 2011. And TB isn't confined to developing countries. In 2011 there were 450 cases in West Yorkshire, with 114 cases in Leeds.



Who gets TB in Leeds?

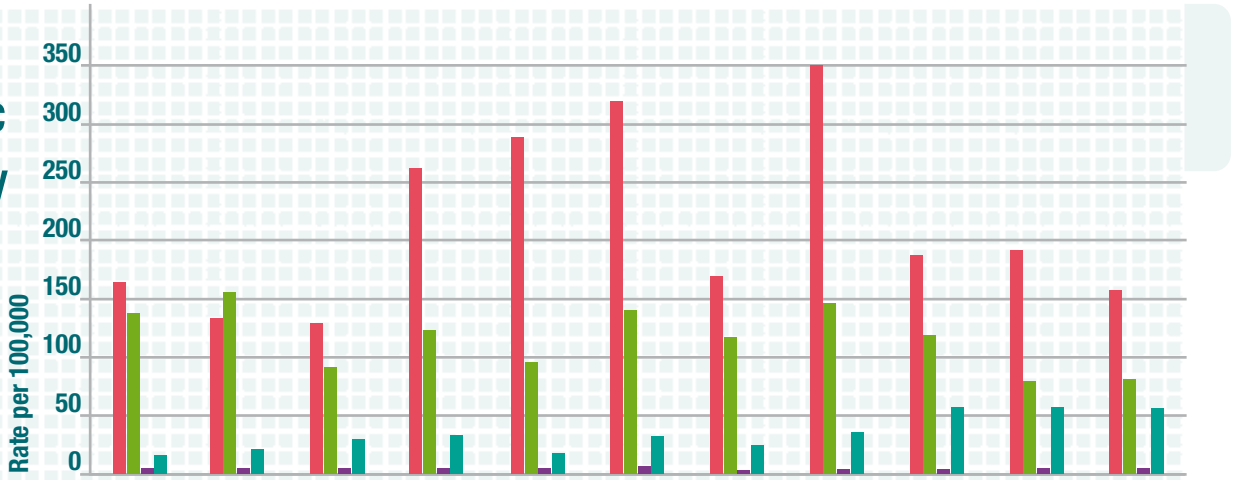
The peak age for people getting TB is between 25 and 34 years old. There are also some cases in people over 65. This is because the TB bacterium can remain dormant (sleeping) in your body, only causing disease in later life when your immune system may not be so strong. There are only a few cases in young people (under 14 years) but any TB occurring in this age group is worrying because they are more likely to have caught TB in the UK, rather than abroad.

TB rates by age group, by year



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
0-14	11.2	6.9	3.2	8.8	5.6	3.2	7.2	6.4	4.0	1.6	3.9
15-24	10.3	9.8	6.0	9.9	19.1	12.9	12.9	16.2	20.4	18.0	11.4
25-34	14.2	24.1	20.5	42.4	23.0	51.8	34.3	52.3	38.0	28.1	26.5
35-44	11.7	10.6	14.5	18.2	18.9	28.3	18.8	23.7	22.1	21.4	21.6
45-64	12.1	14.0	9.5	10.7	12.5	15.4	5.5	14.4	12.4	14.6	13.9
65 plus	19.2	23.7	16.5	9.2	11.0	20.3	10.2	13.9	7.4	11.9	16.3

TB rates by ethnic group, by year

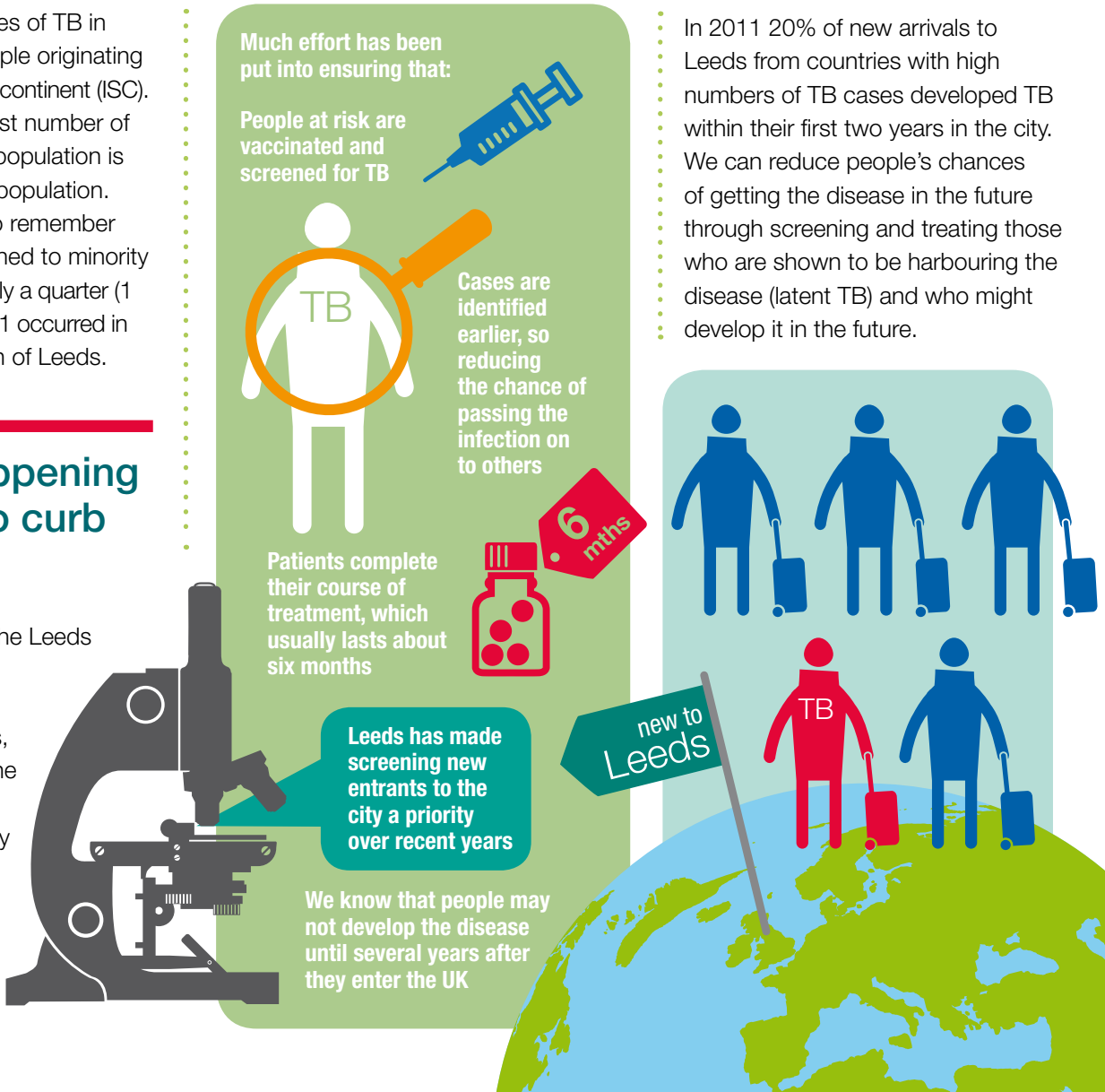


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Black	163.5	132.7	128.0	261.2	287.7	318.5	168.7	349.4	186.9	191.9	156.6
Indian sub-continent	136.7	154.8	90.3	121.7	94.7	139.1	115.8	145.3	117.8	78.5	80.6
White	3.7	4.1	3.8	3.4	3.6	5.3	2.6	2.9	3.1	4.0	3.7
Other	14.4	20.4	28.4	32.1	16.9	30.4	23.0	34.5	56.3	56.3	56.3

The majority of cases of TB in Leeds occur in people originating from the Indian sub-continent (ISC). However, the highest number of cases per head of population is in the black ethnic population. But it's important to remember that TB is not confined to minority ethnic groups. Nearly a quarter (1 in 4) of cases in 2011 occurred in the white population of Leeds.

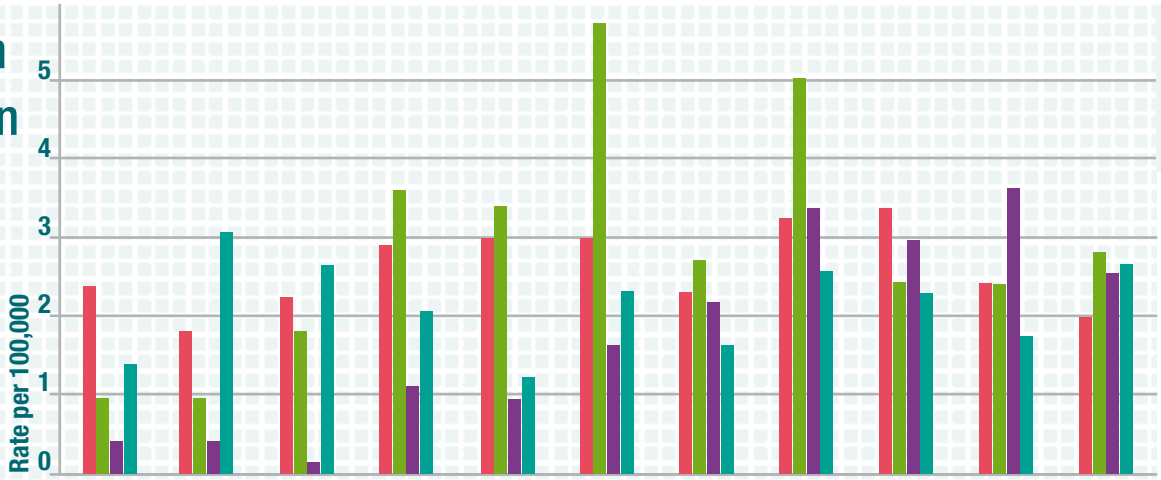
What's happening in Leeds to curb TB?

Over recent years the Leeds health community (hospitals, GPs, TB consultants, nurses, public health and the voluntary sector) have worked closely together and made significant progress in reducing the number of TB cases.



In 2011 20% of new arrivals to Leeds from countries with high numbers of TB cases developed TB within their first two years in the city. We can reduce people's chances of getting the disease in the future through screening and treating those who are shown to be harbouring the disease (latent TB) and who might develop it in the future.

TB rates in people born outside the UK by years lived in the UK



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<2	2.4	1.8	2.2	2.9	3.0	3.0	2.3	3.2	3.4	2.4	2.0
2-4	1.0	1.0	1.8	3.6	3.4	5.7	2.7	5.0	2.4	2.4	2.8
5-9	0.4	0.4	0.1	1.1	1.0	1.6	2.2	3.4	3.0	3.6	2.5
10 plus	1.4	3.1	2.7	2.1	1.2	2.3	1.6	2.6	2.3	1.7	2.7

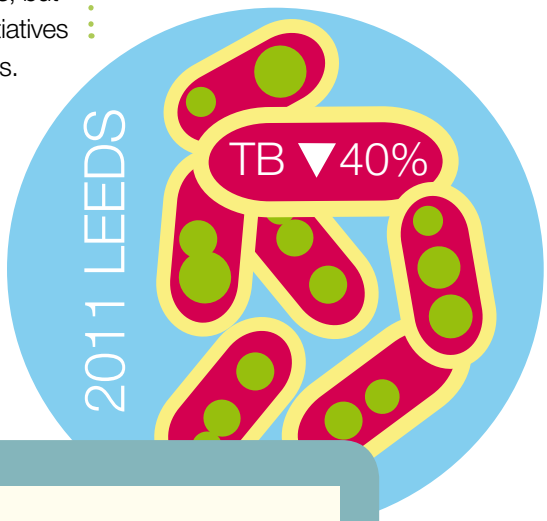
In early 2013 an independent review of TB services in West Yorkshire was carried out by a visiting team of experts.

Their key recommendations were:

- Look in more detail at cases of TB and use this information to identify ways of targeting populations and individuals at risk of developing TB.
- Work more closely with the voluntary sector to develop awareness-raising initiatives and identify service changes to improve access to TB services.
- Re-focus activity on screening close contacts of TB cases and new entrants to identify and treat cases of latent TB.
- Get the TB services across West Yorkshire to work more closely together.

Figures for 2012, which have yet to be confirmed, show that there were 84 cases in Leeds. This represents a drop of over 40% since its peak in 2006. Some of the drop in numbers may be due to changes in migration patterns, but in part it is also due to the initiatives already implemented in Leeds.

Based on 2012 figures Leeds has a TB rate of 11.7 per 100,000. The comparable US rate is 3.2. There's no reason why we can't achieve the US rate but we cannot be complacent. We must push on with this important area of work. Implementing the recommendations of the TB review will help us to achieve this.



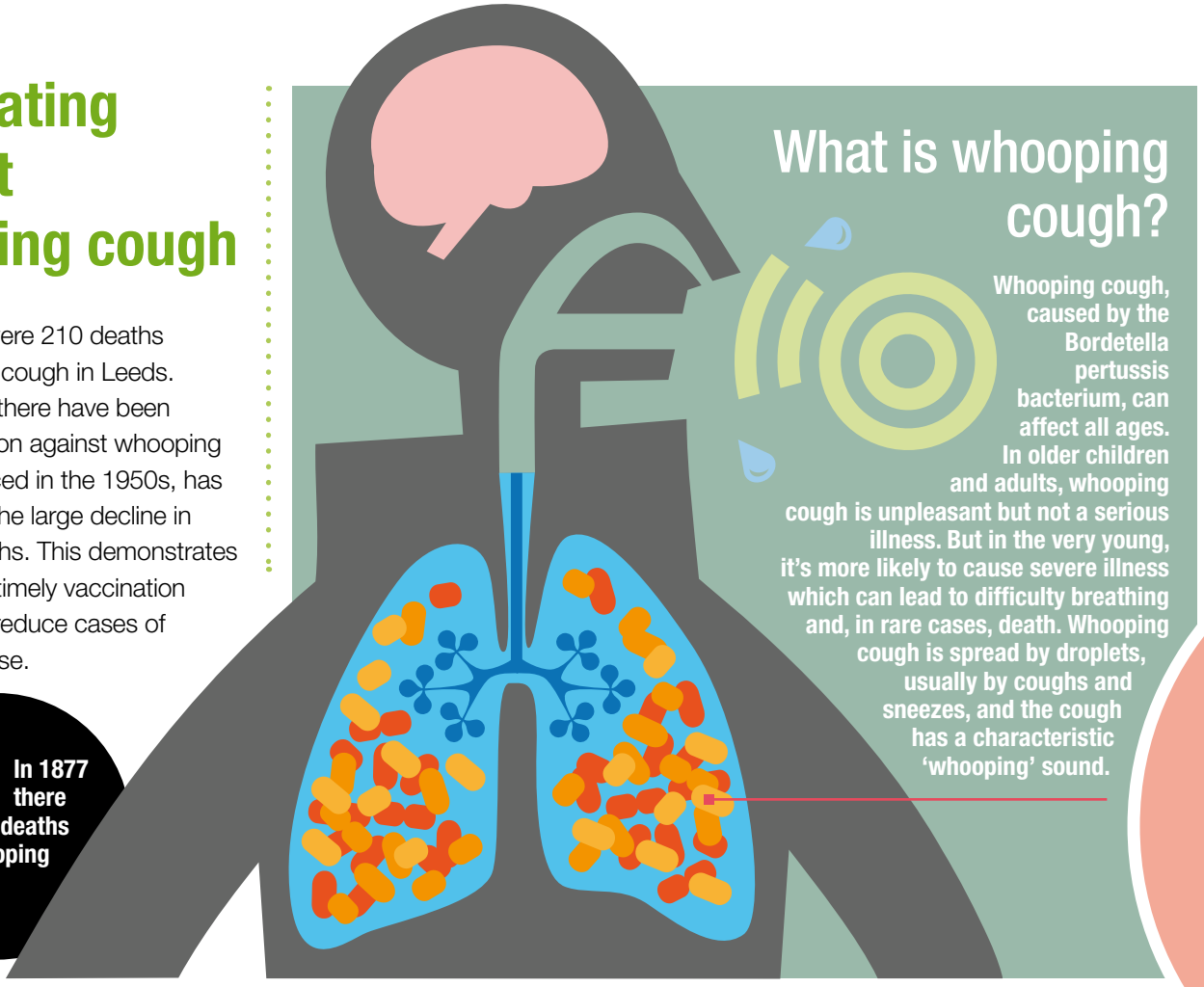
Recommendation

- The Leeds Health Protection Board should work with West Yorkshire partners to act on recommendations from the independent TB review. This will reduce the rate of TB infections.

Vaccinating against whooping cough

In 1877 there were 210 deaths from whooping cough in Leeds. In recent years there have been none. Vaccination against whooping cough, introduced in the 1950s, has contributed to the large decline in cases and deaths. This demonstrates the power of a timely vaccination programme to reduce cases of infectious disease.

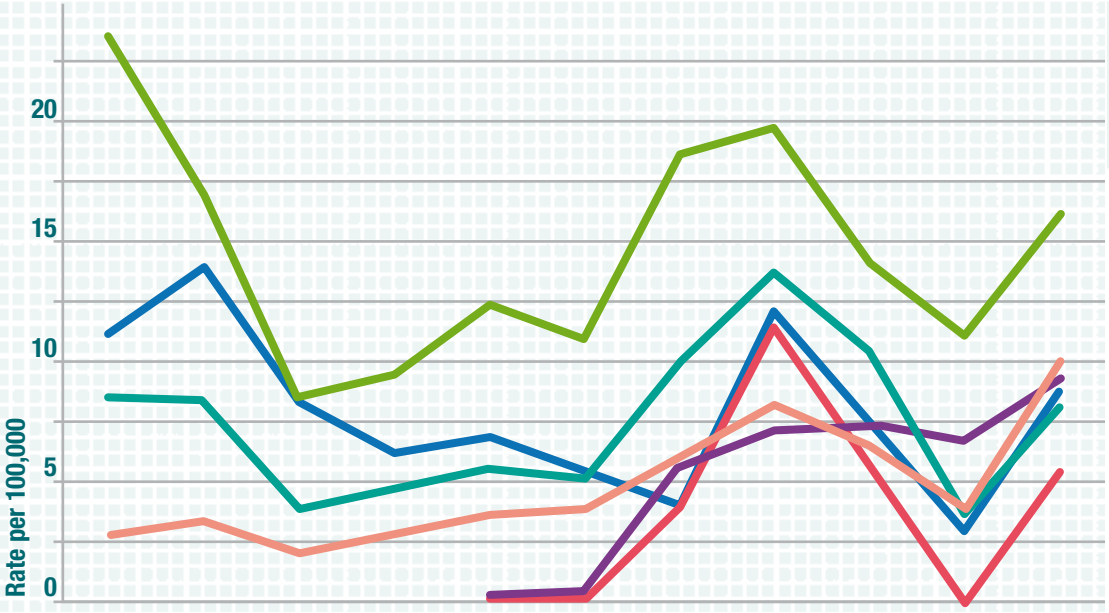
In 1877 there were 210 deaths from whooping cough in Leeds.



What is whooping cough?

Whooping cough, caused by the Bordetella pertussis bacterium, can affect all ages. In older children and adults, whooping cough is unpleasant but not a serious illness. But in the very young, it's more likely to cause severe illness which can lead to difficulty breathing and, in rare cases, death. Whooping cough is spread by droplets, usually by coughs and sneezes, and the cough has a characteristic 'whooping' sound.

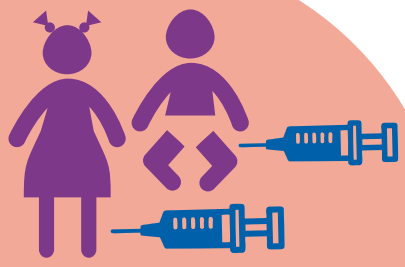
Whooping cough rates by year – Leeds, West Yorkshire and UK



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Notified Leeds	2.2	2.8	1.7	1.2	1.4	1.1	0.8	2.4	1.5	1.3	1.9
Confirmed Leeds					0	0	0.8	2.3	1.2	0	1.1
Notified West Yorks	4.7	3.4	1.7	1.9	2.5	2.2	3.7	3.9	2.8	2.2	3.2
Confirmed West Yorks					0.1	0.1	1.1	1.4	1.5	0.6	1.8
Notified Eng & Wales	1.7	1.7	0.8	1.0	1.1	1.0	2.0	2.8	2.1	0.7	1.6
Confirmed Eng & Wales	0.6	0.7	0.4	0.5	0.7	0.8	1.2	1.6	1.3	0.8	2.0

What was the problem?

From the mid-1990s until 2010 the number of cases of whooping cough in England and Wales had remained low, after the introduction of routine vaccination for very young children.



Vaccination is given as part of the routine childhood immunisation programme at two, three and four months, as well as a pre-school booster at three to five years. Vaccination is effective in the young (after six weeks of age) although it doesn't give lifelong protection.

Then there was a large rise in whooping cough cases in England and Wales in 2011 and up to autumn 2012, with an increase in hospital admissions and nine infant deaths nationally. This national picture was mirrored in Leeds. There have been a number of possible explanations for this increase. One is that the vaccine loses its effectiveness after several years, leaving an ever-increasing proportion of people vulnerable to infection.

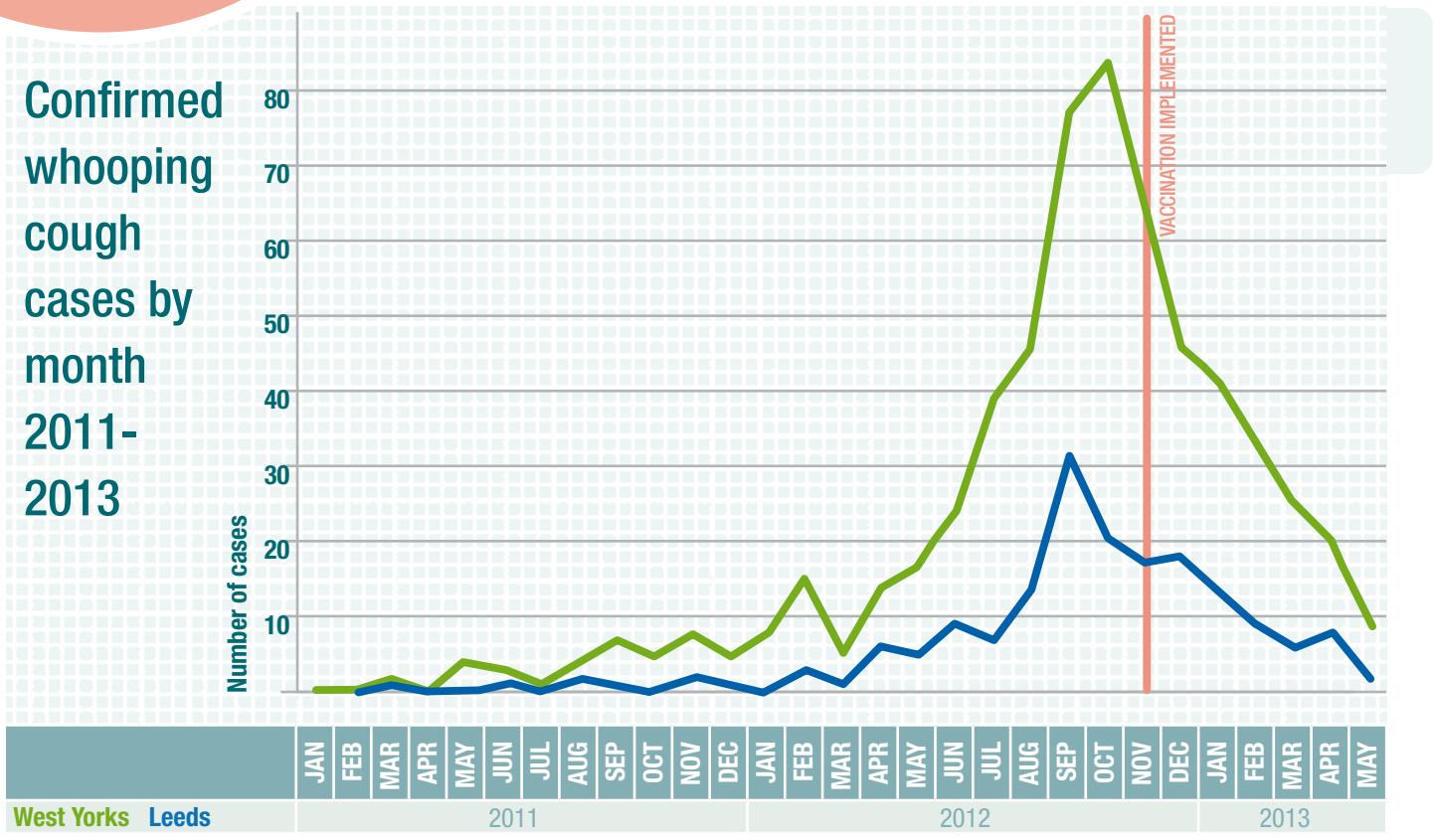
The highest rates were in infants less than three months old. This group is at greatest risk of complications including lung infections and death. Vaccinating babies before two months, when routine childhood immunisation starts, was not a practical option as the vaccine was not licensed for this age group and early vaccination was unlikely to provide good antibody production. A better solution was needed.

What was the proposed solution?

The proposed solution was a six-month programme of immunisation for pregnant women. Immunisation in later pregnancy (28–38 weeks) would cause the mother to produce anti-pertussis antibodies which would cross the placenta and provide the new-born baby with protection against whooping cough.

The main risk was that pregnant women would be reluctant to be vaccinated. In general, health professionals strongly advise women not to take medication during pregnancy. The message to pregnant women had to be a nuanced one – that the vaccine was safe and was needed to protect the baby from whooping cough. This message coincided with the winter flu campaign of 2012 and was supported by health professionals across Leeds, including community nurses, midwives and GPs.

Confirmed whooping cough cases by month 2011-2013



CASE STUDY

Jane
Leeds resident

My lost summer

Last June things were going well.

My son had carried the Olympic torch, I had more work than was good for me, running Music Olympics workshops in primary schools across Leeds, and we had tickets for the Paralympics.

Now I think back, I remember a poorly small child in a school I visited who was sneezing and showering me with spray.

Within a couple of weeks I was feeling ill. I got worse and worse but thought I was just exhausted from my busy work schedule. Within a few days, though, I was coughing really badly and gasping for breath in between coughs.

My son was about to go on his work placement from school and, thinking I had some terrible chest infection, I stayed well away from him. Just as well I did because, after nearly four weeks of gasping for breath, it turned out that I had whooping cough.

I'd not gone to my GP as I assumed it was an infection which would go away of its own accord once the school term finished. It was only when my partner heard a feature on Radio 4's 'Today' programme that whooping cough crossed my mind as a possibility.

Blood tests at the GP confirmed it. I would never have guessed. After all I didn't have the characteristic 'whoop'. Adults, evidently, often don't. I'm also in the wrong age group to catch it, aren't I?

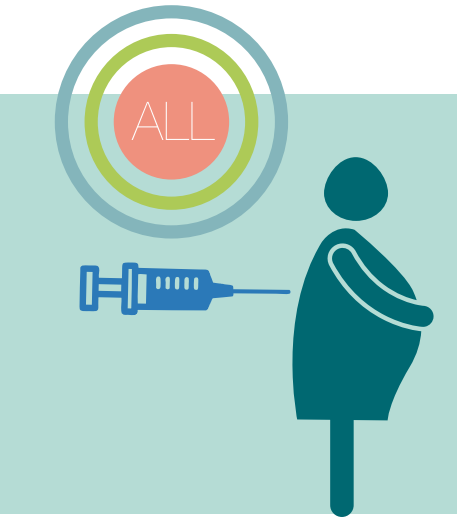
What I did have, however, was the prospect of weeks of bouts of coughing that were exhausting, debilitating and depressing. The coughing was brought on by changing position, bending down, climbing the stairs, lying down to sleep or walking a few steps.

I lost the summer and my son lost his summer holidays from school. I was not fit to go anywhere or do anything.

I also lost a lot of money in bookings (I'm a singer) and, worst of all, I began to fear that I wouldn't make it to the Paralympics.

We did make it, just, but I struggled to get through the week as pushing my son's wheelchair for more than a few steps would bring me to a halt for a bout of coughing, and the Olympic park was very extensive. I wouldn't have missed it though as I'd jumped through 'whoops' to get tickets!

I can't be sure that I caught my whooping cough from that poorly infant, but I hope the child's summer was better than mine.



What was the result?

The immunisation programme has had good uptake across the country. In Leeds about half of all pregnant women were vaccinated. The number of cases had started to fall from their peak just before the programme commenced and has continued to fall since November 2012 both nationally and in Leeds. However, levels are still higher than pre 2011.

The temporary vaccination programme has been extended to ensure that all young infants are protected from whooping cough.

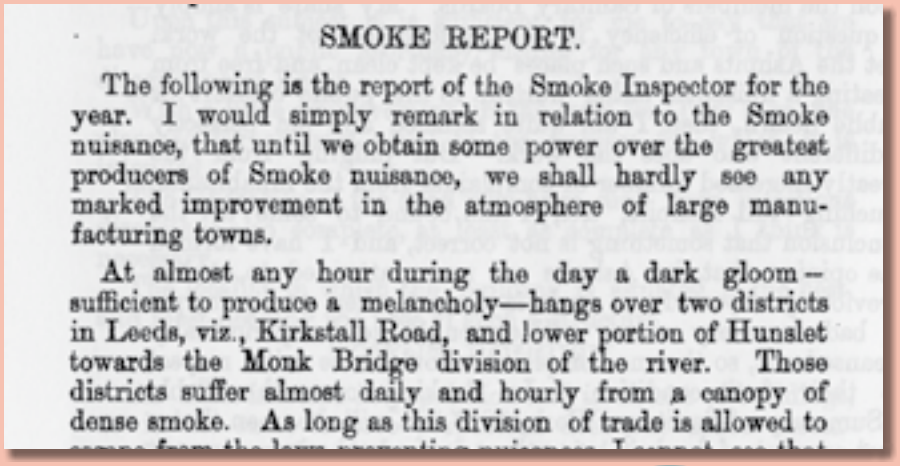
Recommendation

— Leeds City Council should continue to work with primary care and midwifery professionals to increase efforts to vaccinate pregnant women against whooping cough.

Jon Tubby, Environmental Protection Service Manager, Leeds City Council

Reducing air pollution

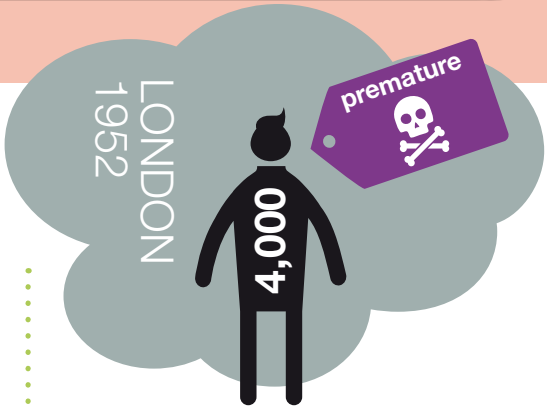
The words below are taken from the report of the Inspector of Smoke Nuisance within Dr Goldie's report of 1877 (p.46). Things have changed a lot since then. Matters were brought to a head by the smog that enveloped London in 1952, which was said to have been responsible for the premature deaths of 4,000 people and which led to the Clean Air Act of 1956.



SMOKE REPORT.

The following is the report of the Smoke Inspector for the year. I would simply remark in relation to the Smoke nuisance, that until we obtain some power over the greatest producers of Smoke nuisance, we shall hardly see any marked improvement in the atmosphere of large manufacturing towns.

At almost any hour during the day a dark gloom—sufficient to produce a melancholy—hangs over two districts in Leeds, viz., Kirkstall Road, and lower portion of Hunslet towards the Monk Bridge division of the river. Those districts suffer almost daily and hourly from a canopy of dense smoke. As long as this division of trade is allowed to

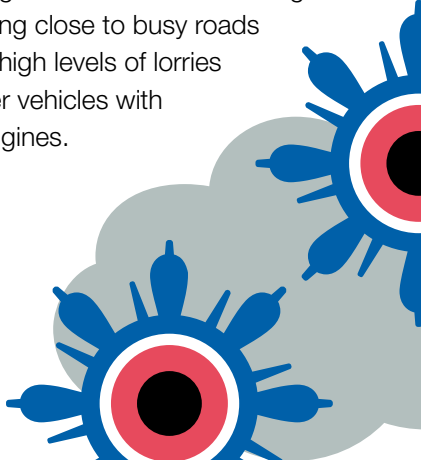


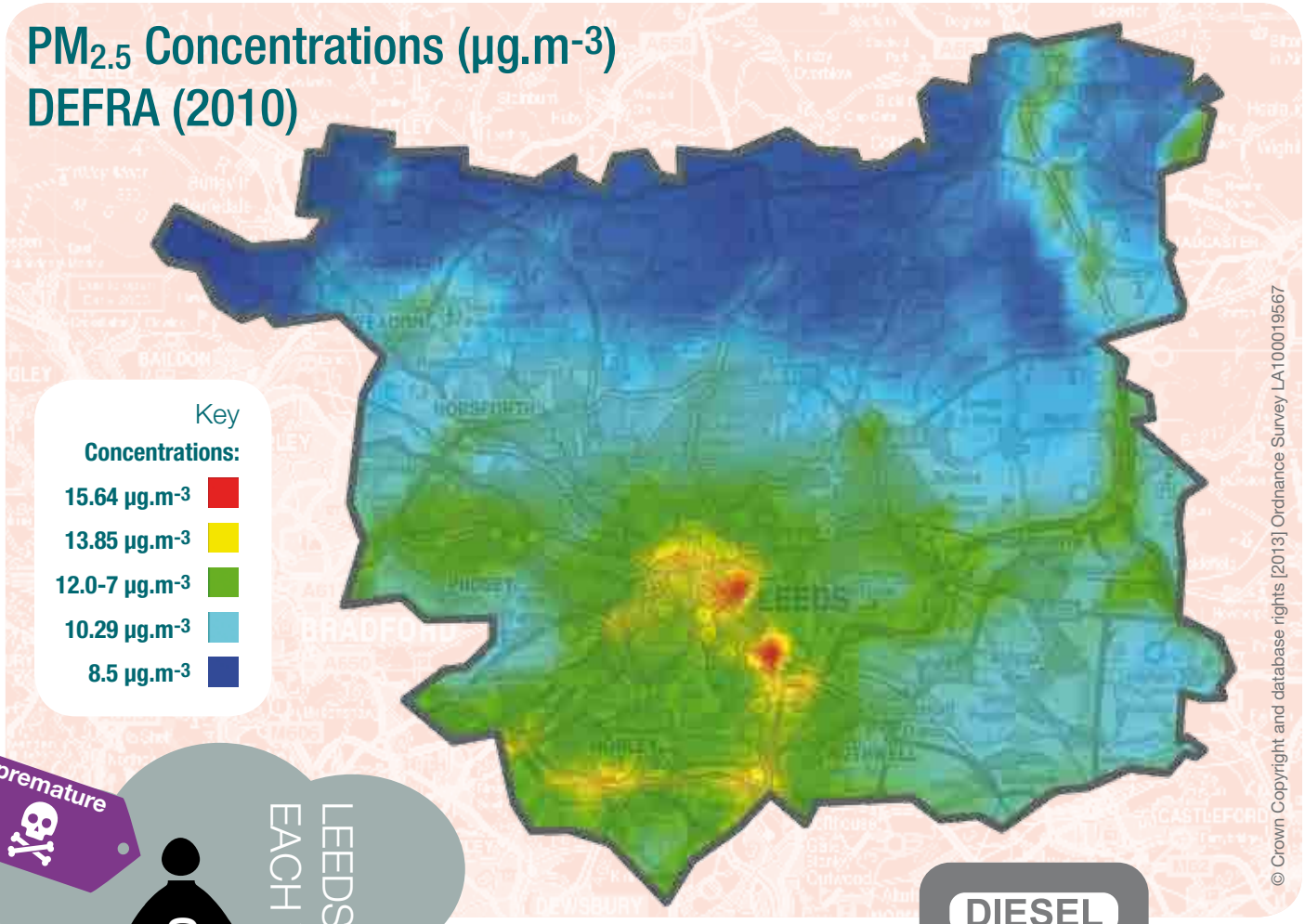
Changes since the 1950s

I first began visiting Leeds in the mid-1960s. When I began working here in 1980, I could see the improvement that had come about through the Clean Air Acts, replacing open coal fires with 'smokeless' alternatives. But nowadays we have a different kind of pollution, caused mainly by cars, lorries and buses. Just because we don't see the pollution doesn't mean that it's not dangerous. It could be equally – if not more – dangerous than the smoke Dr Goldie referred to.

The thick black smoke has been replaced by harmful exhaust gases, notably nitrogen dioxide (NO_2) and microscopic particles described according to their size as PM_{10} (less than 10 microns in diameter) and $PM_{2.5}$ (less than 2.5 microns in diameter). The smallest ones are the most harmful – and their constituents can cause cancer. As well as making asthma worse for those who already have the condition, air pollution may help bring about new cases amongst those living close to busy roads carrying high levels of lorries and other vehicles with diesel engines.

> "Until we obtain some power over the greatest producers of Smoke nuisance, we shall hardly see any marked improvement in the atmosphere of large manufacturing towns. At almost any hour during the day a dark gloom – sufficient to produce a melancholy – hangs over two districts in Leeds, viz., Kirkstall Road, and lower portion of Hunslet towards the Monk Bridge division of the river."





The UK's Air Quality Regulations set out objectives to be achieved for NO_2 and PM_{10} particles. These objectives, of 40µg.m^{-3} for each pollutant, were based on what was thought to be a safe level for human exposure and this still holds for NO_2. Further research has shown that there is no threshold or safe level for PM_{10} and, in particular, $PM_{2.5}$ particles. So by reducing the amount of $PM_{2.5}$ particles in the air we can improve the wellbeing of the whole population of Leeds.

There are still some areas of our city where the objective for NO_2 isn't achieved. These are close to main roads and often include areas of high deprivation where other health issues are also present. Some have been identified as Air Quality Management Areas and others will follow. It is important to address this problem. The most recent report suggests that in the UK, there are likely to be around 29,000 premature deaths each year caused by exposure to $PM_{2.5}$ particles.[11] It's been estimated that the adverse effect on health costs the country between £8bn and £20bn a year (based on 2005 costs). As a major city, Leeds will experience the same sort of pollution levels as other large cities. That means that Leeds will also experience its share of these premature deaths – some estimate as many as 400 to 500 each year.

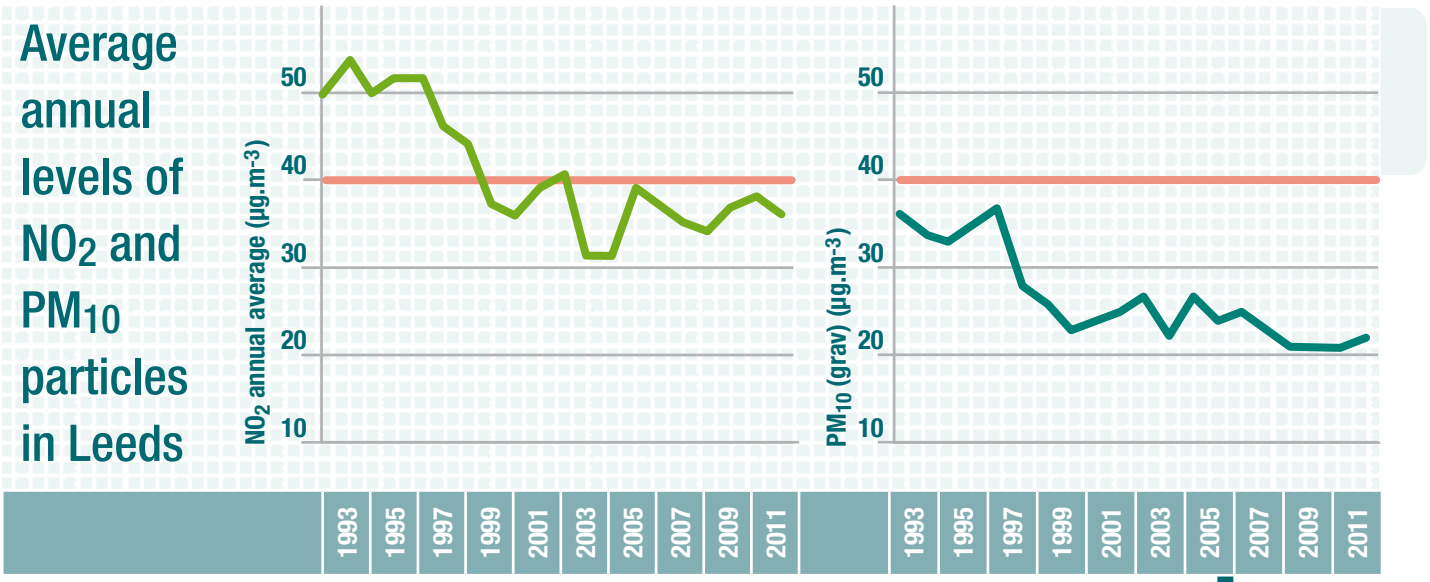
Addressing Health Protection is one of the aims of the Public Health Outcomes Framework. Improving air quality by reducing traffic pollution will contribute to an increase in healthy length of life. It will also help reduce the differences between communities in how long people can expect to live and how long they can expect to remain healthy.

The following two graphs show the improvements made since 1993, and the levels originally thought to be safe, but more needs to be done.

DIESEL

While road traffic is known to be the major source of air pollution in urban areas, it's now becoming clear that diesel engine vehicles are the main contributors to this pollution. In recent years, these have become more popular with the motoring public.

Average annual levels of NO_2 and PM_{10} particles in Leeds



So how can we make things better?

Reducing the number of polluting vehicles on our roads would greatly improve our air quality.

Locally, the council is trialling less polluting vehicles such as refuse vehicles that run on biomethane gas and electric vehicles.

Government has encouraged people to buy cleaner vehicles through the 2009/10 car scrappage scheme and incentives to buy and use electric vehicles.

Cycling and walking could have wider health benefits for the community.

Bus companies and other commercial organisations are also trying out vehicles that use alternative fuels.

Leeds and partners are working on a Low Emission Strategy. This will encourage best practice to reduce air pollution emissions across a wider area.

Leeds City Council is also testing hybrids where electricity is a major energy source or which re-use power recovered in braking.

Central government has a part to play. Through the Highways Agency, the government controls the use of our motorway network.

Encouraging other forms of travel such as public transport would reduce congestion.

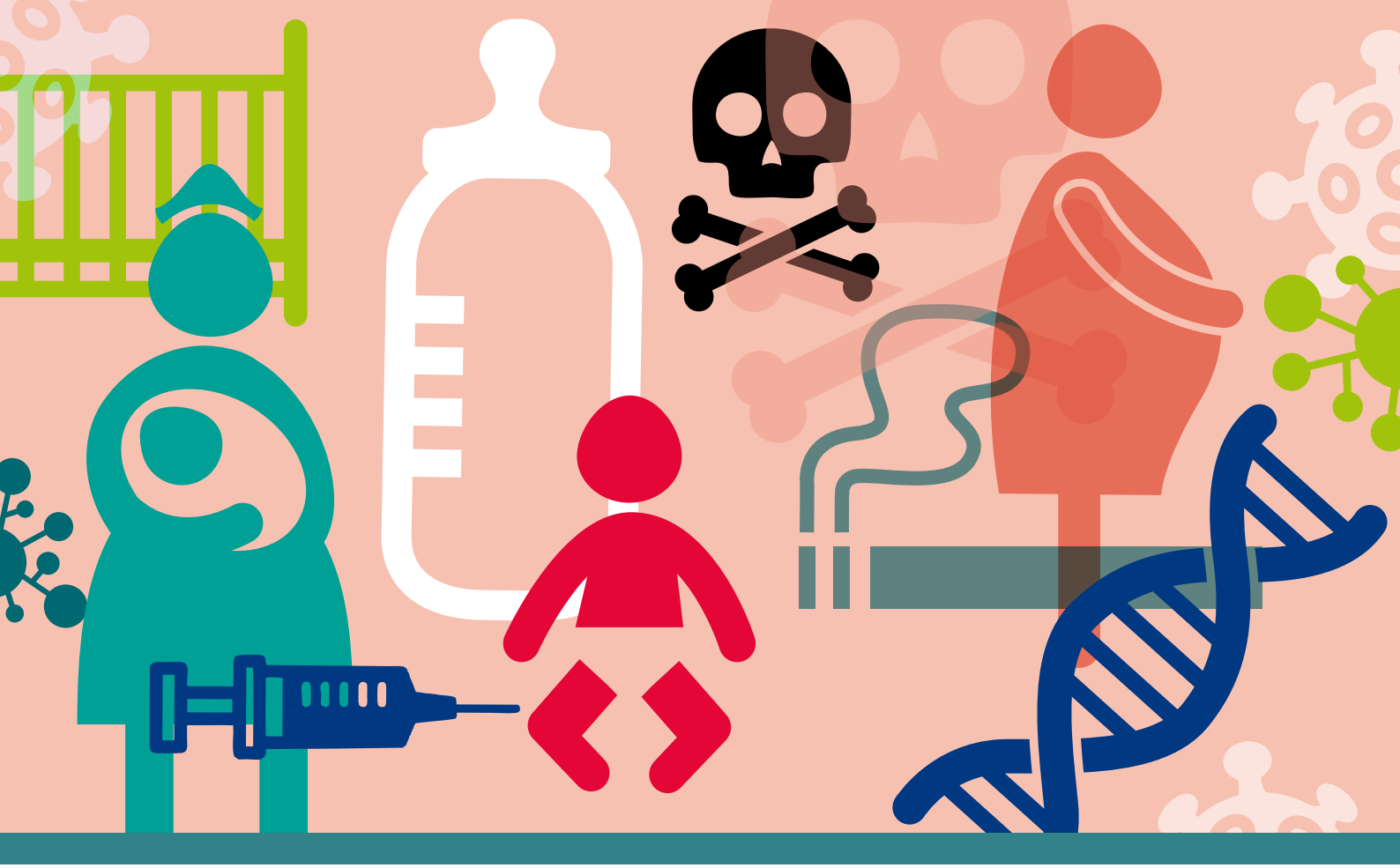
To address air quality on a regional basis, Leeds is working with other local authorities in West Yorkshire. Together we're investigating whether we can deliver cleaner air through 'Low Emission Zones'. This would mean only cleaner vehicles could have access to some areas.

Recommendations

- Leeds City Council should continue work to improve air quality. It should work with other West Yorkshire local authorities to address the issues on a regional basis.
- Leeds City Council should lobby central government to influence aspects of air quality beyond the control of local government.

References

11 The Committee on the Medical Effects of Air Pollutants (COMEAP) (2010) *The Mortality Effects of Long Term Exposure to Particulate Air Pollution in the United Kingdom* http://www.comeap.org.uk/documents/reports



Reducing infant deaths

> I shall endeavour to shew as briefly as possible how the deaths of Infants under one year of age are caused.

Dr Sharon Yellin, Consultant in Public Health Medicine

Infant mortality in Leeds – an overview

I am delighted to report that the rate of infant deaths (babies aged under one year old) in Leeds has fallen to its lowest ever level. For the three-year period from 2009 to 2011, there were 4.7 deaths per 1,000 babies born alive. We've come a long way since the dark days of Dr Goldie's 1877 report when the infant death rate was over 166 per 1,000.

Even the most impoverished countries today have an infant mortality rate lower than Victorian Leeds. For example, the infant death rate in war-torn Afghanistan is 119 per 1,000.

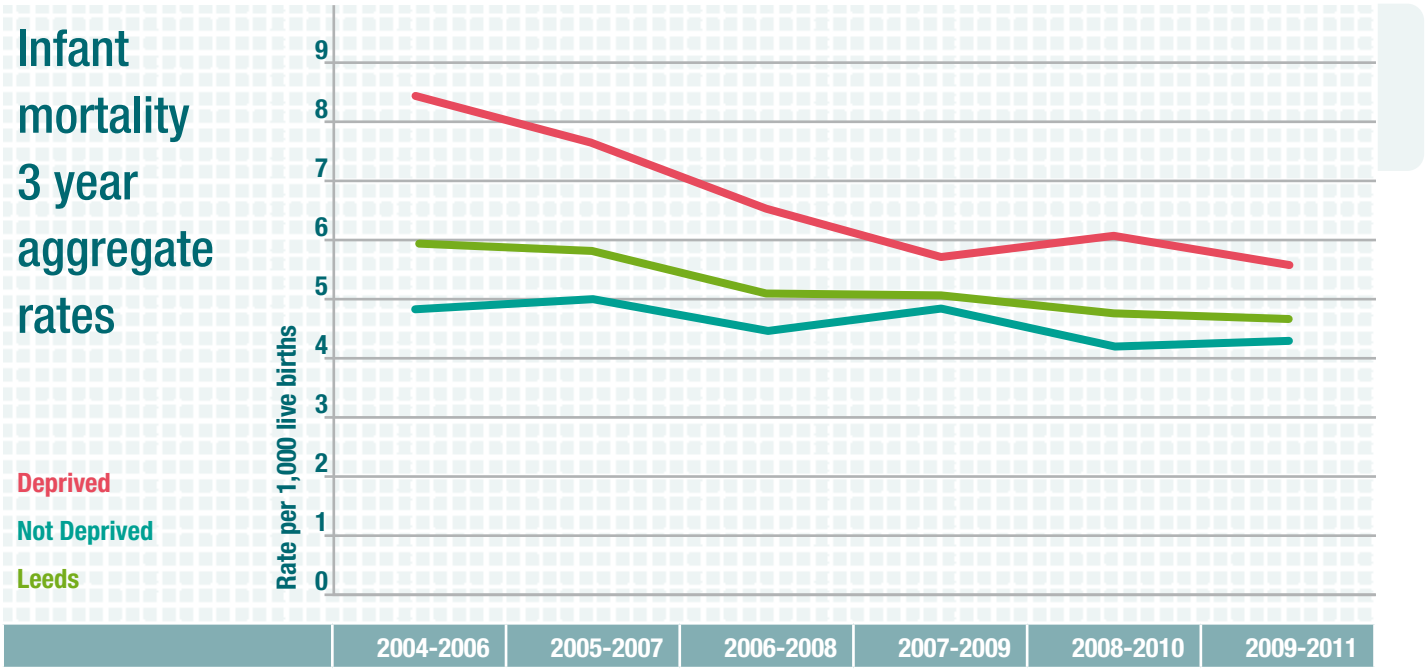
I'm also pleased to report that the gap between 'Deprived Leeds' and the city as a whole has narrowed again, after a slight fluctuation in the last period.

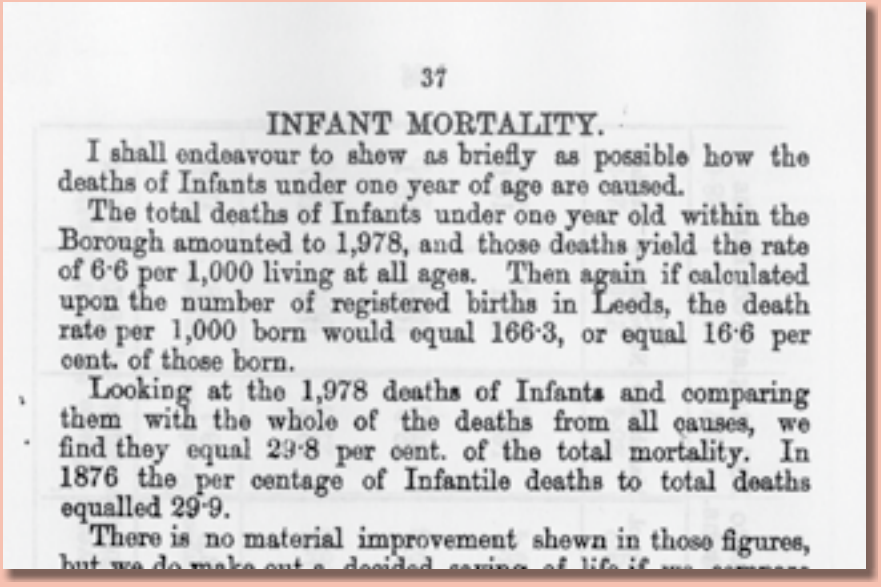
The rate for Deprived Leeds is 5.6 deaths per 1,000 live births for 2009 to 2011. This is splendid progress toward our local inequalities target:

> To reduce the infant mortality rate in Deprived Leeds to 5.5 per 1,000 live births by 2015.

'Deprived Leeds' refers to areas of the city which are in the 10% most deprived in England measured by the Index of Multiple Deprivation. Nearly 1 in 5 people in Leeds lives in these areas.

Below you can see the fall in infant death rates for Deprived Leeds and Leeds as a whole. You can also see that the gap is narrowing.





37

INFANT MORTALITY.

I shall endeavour to shew as briefly as possible how the deaths of Infants under one year of age are caused.

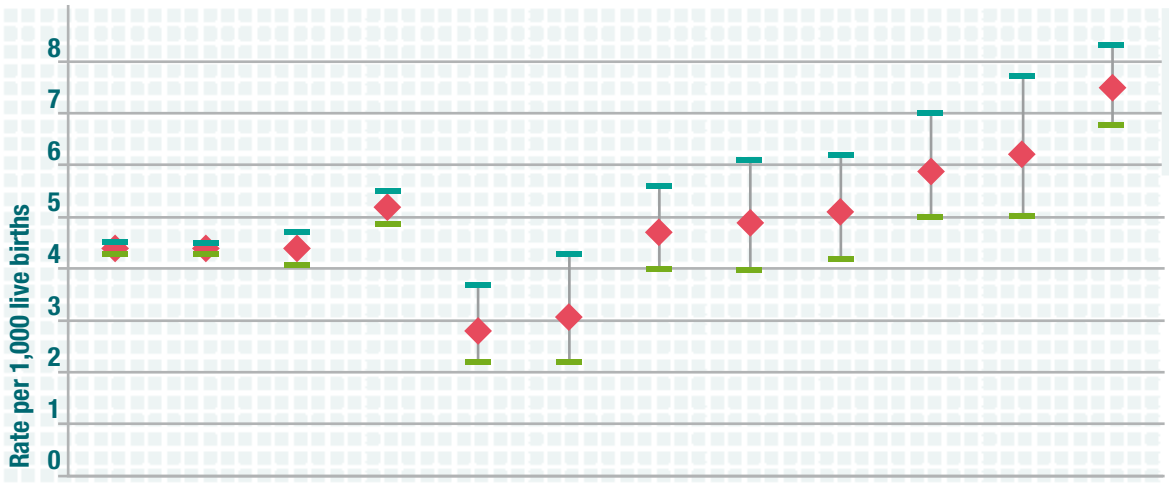
The total deaths of Infants under one year old within the Borough amounted to 1,978, and those deaths yield the rate of 6·6 per 1,000 living at all ages. Then again if calculated upon the number of registered births in Leeds, the death rate per 1,000 born would equal 166·3, or equal 16·6 per cent. of those born.

Looking at the 1,978 deaths of Infants and comparing them with the whole of the deaths from all causes, we find they equal 29·8 per cent. of the total mortality. In 1876 the per centage of Infantile deaths to total deaths equalled 29·9.

There is no material improvement shewn in those figures,

The total number of babies under a year old who died in Leeds during 2011 was 43, far fewer than the 1,978 baby deaths in Dr Goldie's report. If we consider these 43 deaths as a proportion of deaths from all causes and all ages in the city (6,362 deaths in 2011), we find that babies represent 0.7% of the total deaths in Leeds. This is a far cry from the proportion of nearly 30% in Dr Goldie's day.

Core city infant mortality pooled rates 2009 to 2011



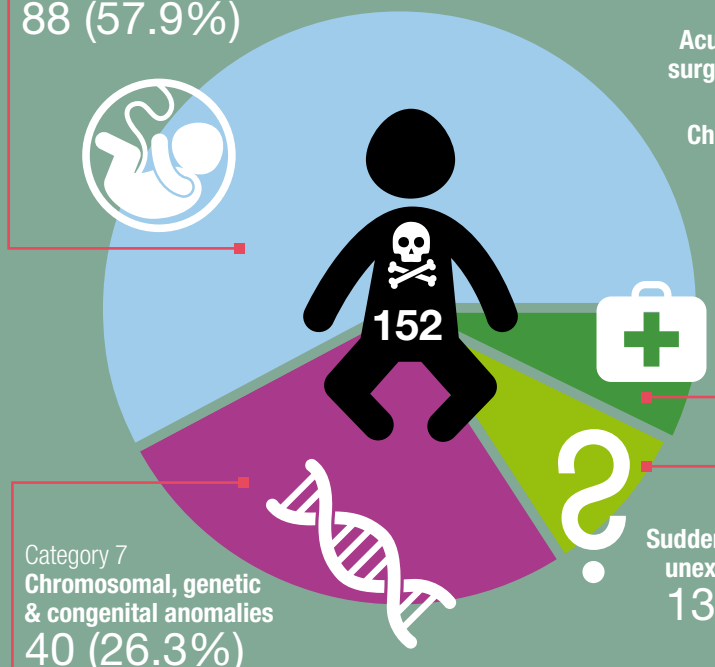
	England & Wales	England	Regional Centres	Yorkshire & The Humber	Bristol UA	Newcastle Upon Tyne MCD	Leeds MCD	Liverpool MCD	Sheffield MCD	Manchester MCD	Nottingham MCD	Birmingham MCD
IM Rate	4.4	4.4	4.4	5.2	2.8	3.1	4.7	4.9	5.1	5.9	6.2	7.5
IM Lower Limit	4.3	4.3	4.1	4.9	2.2	2.2	4.0	4.0	4.2	5.0	5.0	6.8
IM Upper Limit	4.5	4.5	4.7	5.5	3.7	4.3	5.6	6.1	6.2	7.0	7.7	8.3

Note: *The upper and lower limit confidence intervals show the range of values for each area that can also be called the uncertainty range when dealing with a population sample. We might then say in similar circumstances with the same population we would be 95% confident that the rates would fall within the range.*

The diagram above compares Leeds to other core cities and we see that Leeds lies towards the lower end. Given the margin of error, we cannot say that we are better than cities with slightly higher rates such as Liverpool, Sheffield, Manchester and Nottingham. But Birmingham clearly has a worse and Bristol a statistically better rate than us.

Today, the best local information on the causes of infant deaths is drawn from the Leeds Child Death Overview Panel, which I chair. The Panel was established in April 2008 under statutory guidance, and has reviewed 152 deaths of infants since it began. As in Dr Goldie's day, the cause of death is drawn from the death registration. This may have been subject to discussion or investigation by the Coroner if the cause of death was not clear. The Panel also collects an additional layer of information about the circumstances of the death from professionals involved with the child and family before the death. It then holds a discussion about each one to identify any preventative public health actions.

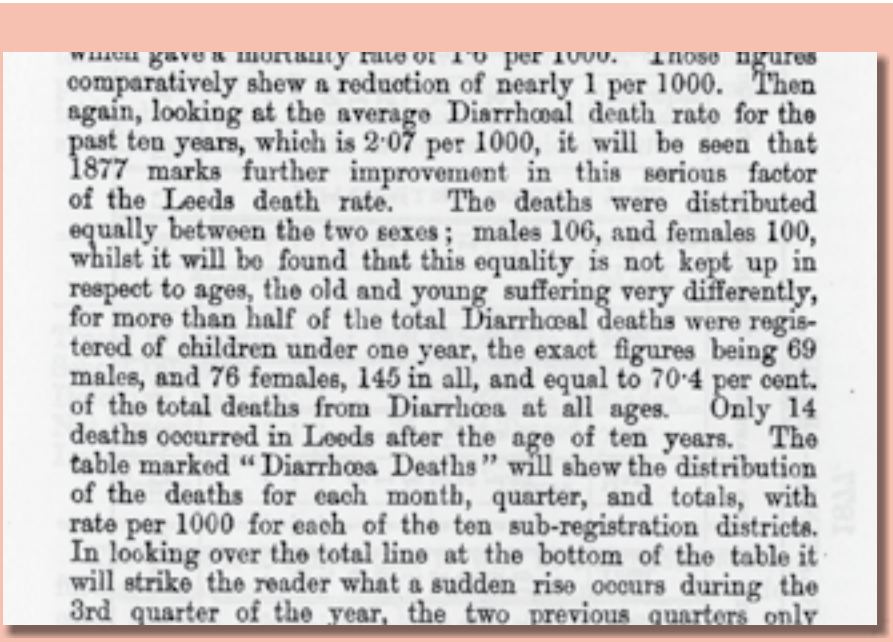
Breakdown of 152 deaths of infants reviewed by Leeds Child Death Overview Panel since April 2008



Note: *The table shows findings for 152 babies reviewed by Leeds Child Death Overview Panel since 2008. The Panel has not yet reviewed all deaths in this period.*

Dr Goldie's report of 1877 identifies the top five causes of infant deaths as bronchitis, convulsions, premature birth, diarrhoea and marasmus (malnutrition). These causes accounted for nearly 90% of deaths. Diarrhoea, for example, was a much greater problem in infants than in the population at large:

> More than half of the total Diarrhoeal deaths were registered of children under one year, the exact figures being 69 males, and 76 females, 145 in all, and equal to 70.4 per cent of the total deaths from Diarrhoea at all ages.

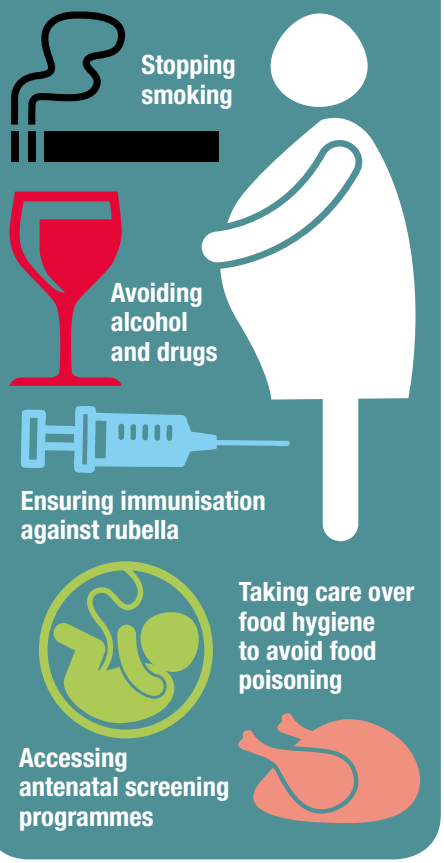


which gave a mortality rate of 1·6 per 1000. Those figures comparatively shew a reduction of nearly 1 per 1000. Then again, looking at the average Diarrhœal death rate for the past ten years, which is 2·07 per 1000, it will be seen that 1877 marks further improvement in this serious factor of the Leeds death rate. The deaths were distributed equally between the two sexes; males 106, and females 100, whilst it will be found that this equality is not kept up in respect to ages, the old and young suffering very differently, for more than half of the total Diarrhœal deaths were registered of children under one year, the exact figures being 69 males, and 76 females, 145 in all, and equal to 70·4 per cent. of the total deaths from Diarrhœa at all ages. Only 14 deaths occurred in Leeds after the age of ten years. The table marked "Diarrhœa Deaths" will shew the distribution of the deaths for each month, quarter, and totals, with rate per 1000 for each of the ten sub-registration districts. In looking over the total line at the bottom of the table it will strike the reader what a sudden rise occurs during the 3rd quarter of the year, the two previous quarters only

Nowadays, more than half of all infant deaths are due to 'Perinatal and neonatal events'. This category includes premature birth before 28 weeks of pregnancy – one of Dr Goldie's top five – and a range of other complications such as tears and bleeds of the placenta before and during birth, and bleeds into the baby's brain at birth. This statistic shows the critical importance of providing excellent NHS maternity and neonatal care, and of encouraging women to book for their antenatal care as early as possible. I'm pleased to report that, in Leeds, 83% of women book their pregnancy before the twelfth week of pregnancy. This is a huge improvement over recent years.

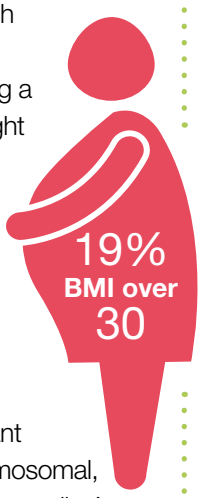
A local audit has shown us that women from minority ethnic groups are more likely to be amongst the later bookers.[12] We know as well from national statistics that the greatest inequalities in infant deaths are among Pakistani and Caribbean groups. Babies in these groups are more than twice as likely as White British babies to die before the age of one.[13] Among Caribbean babies, the causes of death are more likely to be related to prematurity. For Pakistani babies, the main cause of death is congenital anomalies. Good work has been done in Leeds to address this issue. We have appointed a specialist hospital midwife to improve access to services for black and minority ethnic groups. We've also developed pathways to make services more sensitive to the needs of particular groups such as asylum seekers, and gypsies and travellers.

I'd also like to draw attention to the importance of good health both before a woman conceives and during the early stages of the pregnancy. Important aspects for the prospective or expectant mother to consider include:



Teenage mothers are more likely than others to experience poor outcomes from pregnancy. We know that teenage mothers are more likely to smoke and drink, less likely to attend for early antenatal care, and more likely to live in poverty. That's why we have worked hard to make maternity services suitable for teenagers and to support teenage parents, as well as trying to reduce teenage pregnancies.

We know that good nutrition is vital during pregnancy, along with a healthy weight. Alas, nearly a fifth of women (19%) who become pregnant in Leeds are overweight, with a body mass index in excess of 30. This puts them at greater risk of many pregnancy complications, such as gestational diabetes and high blood pressure. Work is now taking place to set up a care pathway for very overweight women. This will help with the difficult challenge of achieving and maintaining a healthy weight. Overweight expectant mums will be put in touch with Early Start services in the community, which can continue to support them after their baby is born.



Over a quarter of the infant deaths are due to 'Chromosomal, genetic and congenital anomalies'. This includes a wide range of physical abnormalities and syndromes, some of which are inherited. There has been much coverage in the media in recent years about the added risk of genetic conditions in communities where cousin marriage is common, such as those of Pakistani and Bangladeshi origin.

Cousin marriage promotes strong social and economic bonds within extended families. But it may from time to time result tragically in their children having rare inherited conditions. The rate of recessive genetic conditions in babies born to cousin couples is 1 in 33. This is compared to 1 in 500 for unrelated couples.[14] To some extent this higher rate may also reflect the genetic effect of several generations of cousin marriage within a family.

Of the 152 babies reviewed by the Panel, 16 were born to cousin parents, but only 9 died of inherited conditions. This was 6% of all deaths. The other 7 deaths were from altogether different causes.

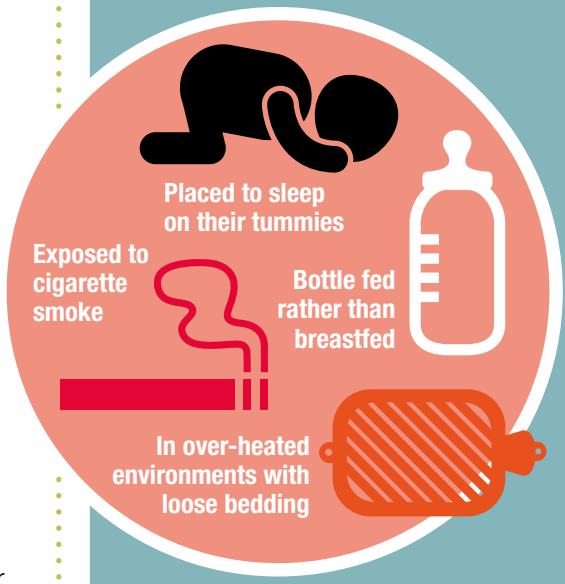
With the help of genetic counselling services, it is likely that some couples might choose to avoid having a baby with a serious or terminal condition. They might choose either to terminate the pregnancy at an early stage or to try advanced techniques such as pre-implantation genetic diagnosis. (This is where the couple have fertility treatment and an unaffected embryo is selected and implanted into the womb.)

I would urge couples considering marriage to a cousin to seek advice and guidance about the choices available to them from a health professional such as a health visitor, midwife or GP, and perhaps referral to the specialist genetic service for counselling. This is particularly important if they are aware of serious illness or early deaths among children in their wider family.

Finally, I'd like to draw your attention to the Leeds Infant Mortality Action Plan, some aspects of which are described in the pages which follow. We have been working in partnership since 2008 in Leeds with the aim of reducing the inequalities gap in infant deaths. Our broad action plan has been guided by the scarf diagram opposite. This brings together the actions that should have an impact on our inequalities gap, based on what the evidence tells us. Of these interventions, promoting breastfeeding, addressing child poverty and reducing smoking during pregnancy are most prominent.

The infant mortality programme sits within the work programme of the new Health and Wellbeing Board for the city, which has identified 'Best Start' as one of its top priorities. The rest of this chapter highlights some, but by no means all, aspects of our programme. Some aspects are described from the perspective of professionals who are leading the work.

A final significant group of infant deaths is 'Sudden unexpected unexplained death'. All of these babies unexpectedly died during their sleep. I am pleased to say that, over the last two decades, such deaths of babies have been drastically reduced as our understanding of the risk factors has grown. We know that babies are more at risk if they are:



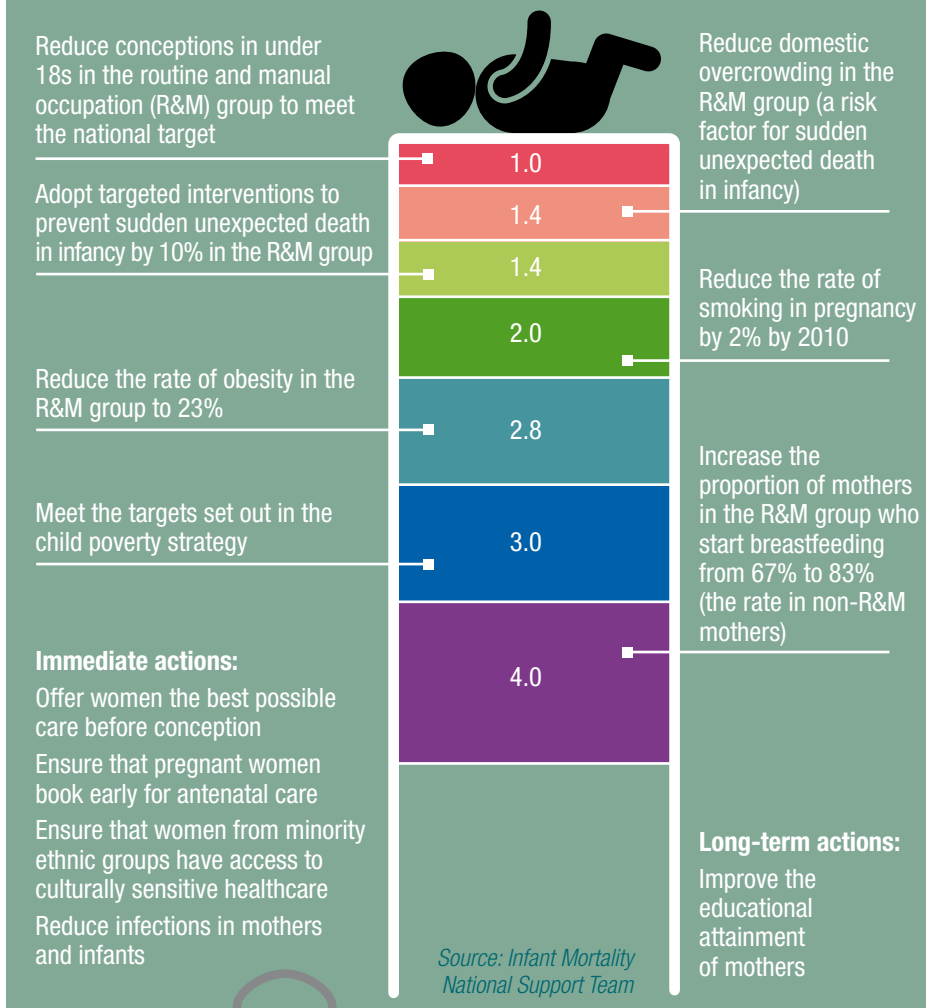
Yet as deaths have declined due to these risk factors, it has become increasingly clear that a safe sleeping environment is vital for a baby.

Too many parents are unaware that the safest place for their baby to sleep is in his or her own cot, preferably in the same room as mum and dad. Taking baby to sleep in the parents' bed or on the sofa can be dangerous, especially if mum or dad is over-tired, or has consumed alcohol or drugs. It is heart breaking to hear about this small number of babies each year who die in these circumstances.

Of the 13 babies reviewed who died unexpectedly, nine were 'co-sleeping' with one or both parents. In all of these cases, other risk factors such as smoking, alcohol, drugs and over-wrapping were present. I cannot stress too strongly the importance of making every parent aware of these risks. Grandparents too, as they often have much influence on the behaviour of new parents. If we could prevent co-sleeping, we might save two or three babies each year.

Others are described by some of the individuals whose actual lives reflect the reality of the work. I would like to thank them for sharing their stories with us.

Scarf diagram showing identifiable actions to reduce the 2002–04 gap in infant mortality



Recommendations

- Leeds City Council should continue to work in partnership pro-actively to address the prevention of infant deaths as part of the 'Best Start' priority of the Health and Wellbeing Board.
- Leeds Health and Wellbeing Board should take forward, in partnership, the findings of the review of antenatal and postnatal support needs of women and families with complex social factors.

References

12 Egerton, S. (2009) Health Equity Audit. *Access to timely antenatal care in Leeds: Predictors of late booking.* MSc Population Health, Dept of Health Sciences, University of York.

13 Gray, R., Headley, J., Oakley, L., Kurinczuk, J., Brocklehurst, P. and Hollowell, J. (2009) *Inequalities in infant mortality project briefing paper 3. Towards an understanding of variations in infant mortality rates between different ethnic groups.* Oxford: National Perinatal Epidemiology Unit.

14 Genetic Alliance UK http://www.geneticalliance.org.uk based on research by Bundey ,S. and Aslam, H. (1993) A five year prospective study of the health of children in different ethnic groups with particular reference to the effect of inbreeding. *European Journal of Human Genetics* 1:206–19.

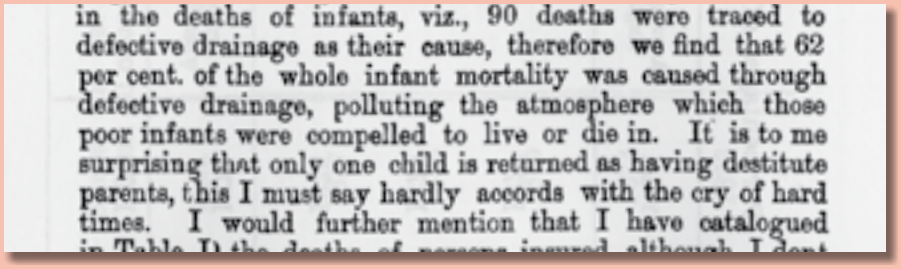
Joanne Davis & **Louise Cresswell**,
Health Improvement Specialists (Advanced)

> It is to me surprising that only one child is returned as having destitute parents, this I must say hardly accords with the cry of hard times.

Tackling child poverty

Along with other public health colleagues, we set up two Reducing Infant Mortality Demonstration Sites (RIMDS) in 2008. One was in Beeston Hill and Holbeck and the other was Chapeltown. The public health team chose these neighbourhoods because both have an infant mortality rate higher than the national average and both are classed as deprived. Our long-term aim was to reduce the local infant mortality rate and improve antenatal, postnatal and infant health in these two neighbourhood areas.

We have used national evidence and responded to local need to develop our work programmes. These are aimed at reducing the unequal gap in infant death rates between deprived areas of Leeds and the rest of the city.



in the deaths of infants, viz., 90 deaths were traced to defective drainage as their cause, therefore we find that 62 per cent. of the whole infant mortality was caused through defective drainage, polluting the atmosphere which those poor infants were compelled to live or die in. It is to me surprising that only one child is returned as having destitute parents, this I must say hardly accords with the cry of hard times. I would further mention that I have catalogued

Along with partners we are working to tackle child poverty and support local families through the welfare reforms. We are:

Running budgeting courses for parents and promoting the Healthy Start scheme

Developing a resource to help frontline workers support people who are having problems with money

Making financial and welfare advice sessions available to local people

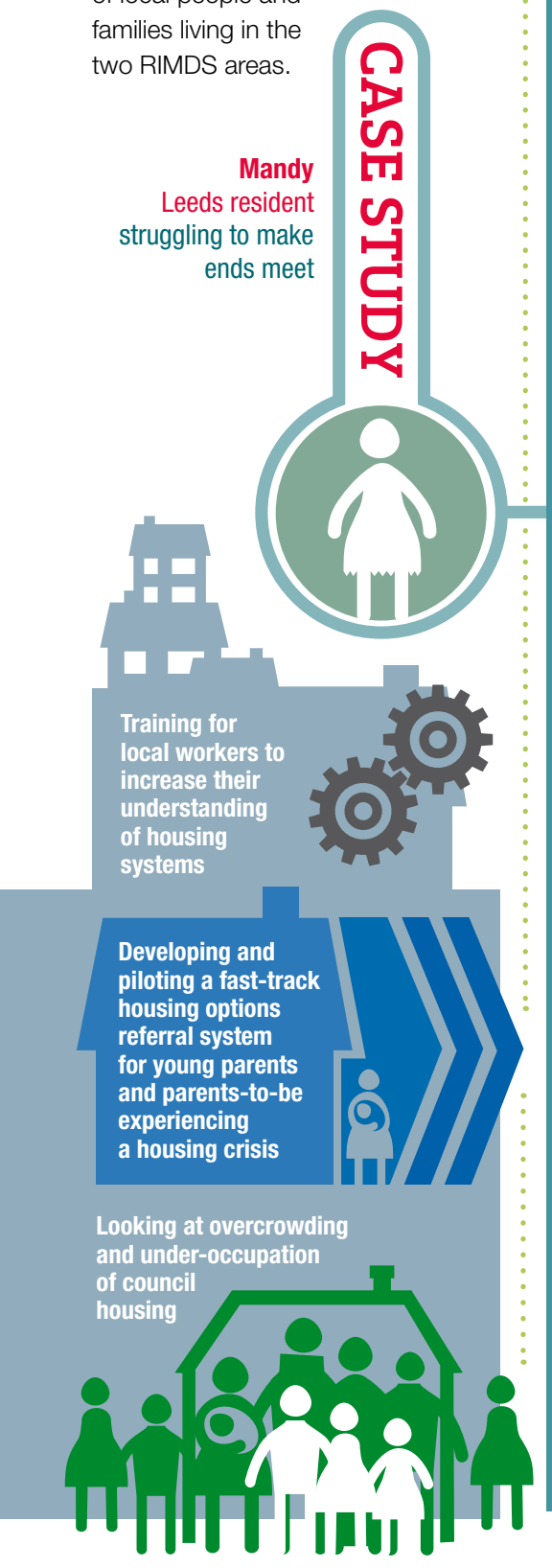
Working to make it easier for local people to get access to computers so they can apply for Universal Credit online

Running a local Moses basket loan scheme

We have also been involved with establishing a Housing and Infant Mortality Steering group. The group has developed and is driving forward a joint housing and health programme of work. This has included:

Delivering training sessions to housing staff to make them aware of the link between housing, infant mortality and other key health issues

In our view, the RIMDS model works well because of its partnership approach. All partners and agencies feel a sense of commitment, ownership and engagement with the programme. We hope this work will make a real difference to the lives of local people and families living in the two RIMDS areas.



This is the story of a young mother (we have changed her name) who lives in a back to back property in Holbeck with her two young children and has been unemployed since last November. She is currently receiving benefits and is also being supported by local charity Health for All's Family Intervention Service.

It's a real struggle on benefits. I get JSA [Jobseeker's Allowance] which is £71.70 a week. I really want to get a job but it's just so difficult.

I've been badly advised on benefits. There's been no consistency in what I've been told by benefits staff. Sometimes they've given me information that's been plain wrong and I've even ended up with a court summons asking me to pay something I shouldn't be. That was very stressful even though it was eventually sorted – three journeys and a lot of trouble later.

Searching for jobs is dependent on access to the internet. I don't have a computer at home and couldn't afford the internet. There's a community centre nearby where I can access it for two hours on a Tuesday but that's it. Otherwise I have to get on a bus – a Day Rider costs £4 and I just can't afford that. Every job demands you have an email address. Benefits are now going online too. The only place in Holbeck which had computers was the library and that closed a few years ago.

The things you really struggle with are everyday things like not being able to decorate the house and not having a washing machine. Even a second-hand washing machine costs £90. If you're on benefits, that's not happening.

I used to get a clothing allowance of £20 a year which helped with the kids' school clothing. Now that's stopped I'll have to find the money from somewhere else, especially when my eldest goes to secondary school.

I have debts as well. I owe for parking fines and council tax. They're taken straight out of my benefits. I was in arrears with my rent so I'm paying extra on that. I took out a payday loan plan some time ago, so I owe on that. I gave the loan company my bank details and they started taking money out when I didn't realise they would so I had to change bank accounts.

I do manage with food, but it can be difficult. Holbeck doesn't really have any supermarkets. I walk into town and buy stuff from the market where it's cheap. I sometimes do a big shop at Hunslet Morrisons, and get loads of tins and basic saver stuff. But if you buy lots of tins then you have to get a taxi and that costs.

I scour the papers and things like cereal packets for vouchers or offers. It all helps.

Cat at Health for All has been fantastic. I don't know what I'd have done without her. She has supported me and helped to sort out my problems. Cat's pointed me in the direction of where I can get cheap second-hand furniture, where to get cheap paint, and she helped me sort out the problems I had with the duff information from benefits staff. She's helped me get my finances back on track.

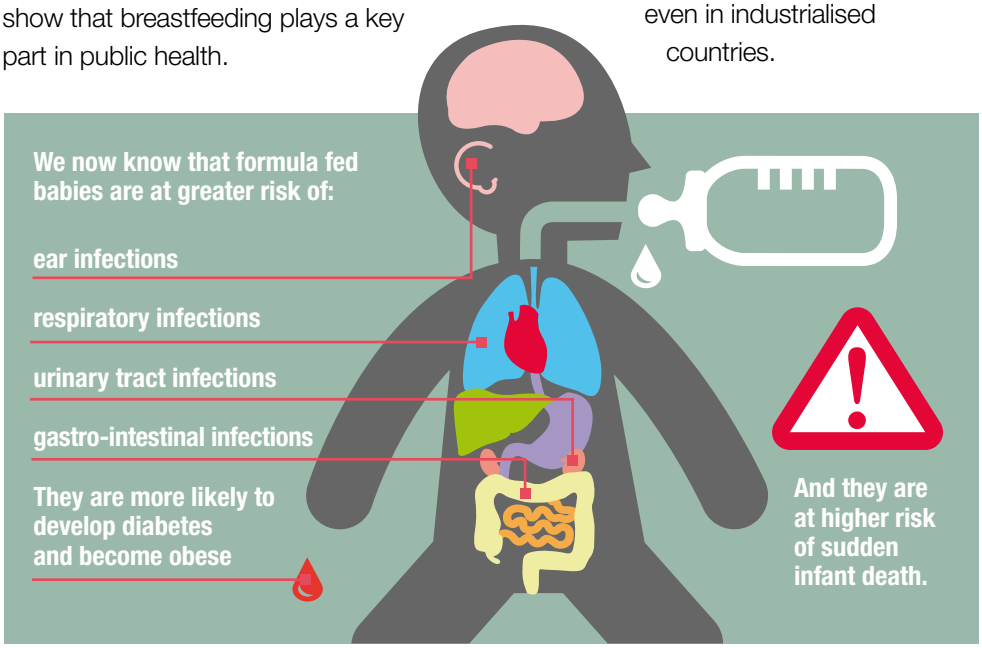
There should be more help and advice for people on benefits and more consistency in that advice. Most people will take the advice at face value and may end up paying fines they don't have to; they need to get it right.

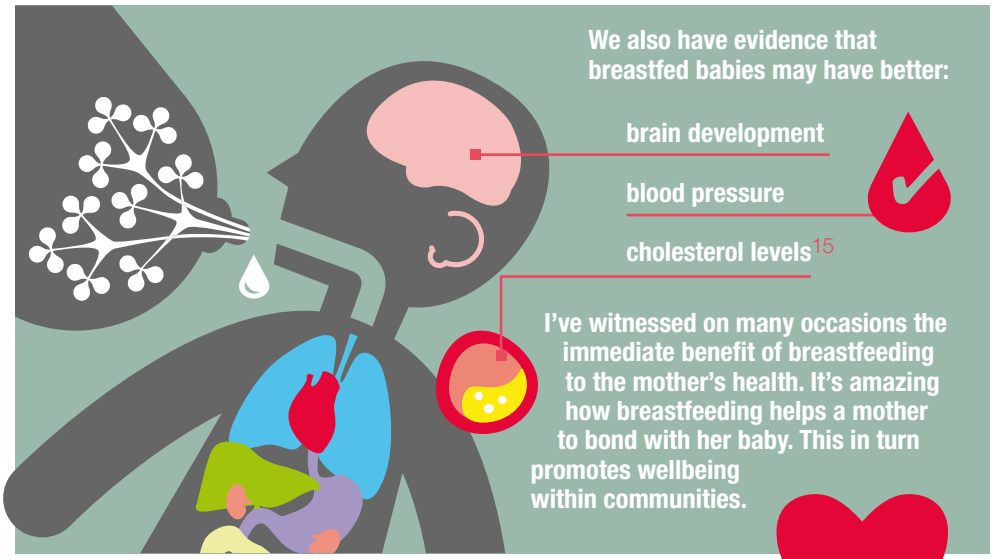
Sally Goodwin-Mills, Baby Friendly Initiative Coordinator, Children and Families Public Health Team

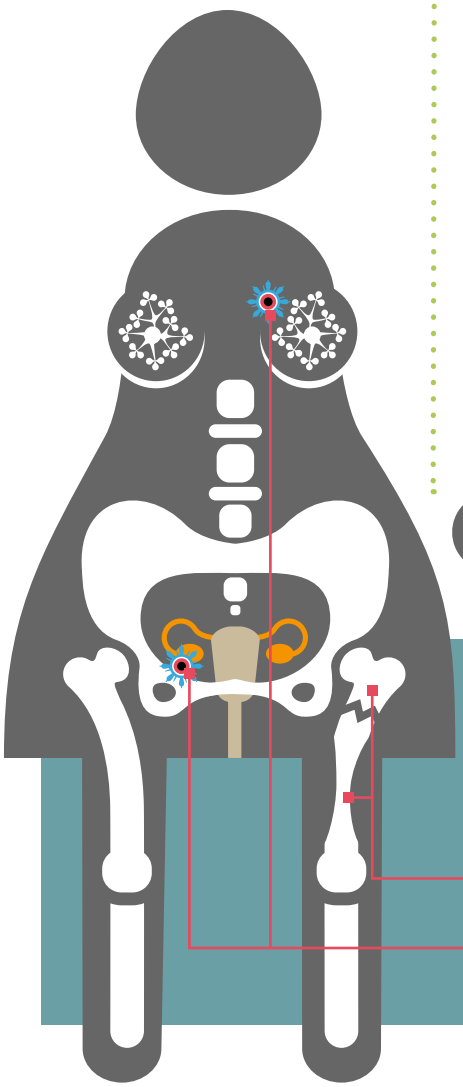
Breastfeeding

I'm pleased to report we now have reliable evidence from recent years to show that breastfeeding plays a key part in public health.

It also has an important role in reducing the health gap between rich and poor, even in industrialised countries.







Women need to understand the benefits of breastfeeding for their own health as well as their baby's.

Breastfeeding reduces the chance of getting:

- hip fractures and osteoporosis
- breast and ovarian cancer

All of us involved in the Baby Friendly Initiative are committed to supporting the women of Leeds to breastfeed. We're doing this by training staff and providing specialist clinics and groups. We're also developing social marketing public health campaigns.

Currently around 2 out of 3 women start breastfeeding and nearly half are still breastfeeding at 6–8 weeks.[16]

In Leeds the Breastfeeding Strategy Food for Life 2010-2015 sets out a plan of action to improve breastfeeding services and provide support and information for pregnant women and their families. We aim to reach the UNICEF UK Baby Friendly Initiative standards www.babyfriendly.org.uk to ensure we are providing the best care. This has meant a substantial change in practice for midwives and health visitors. It's a change they've wholeheartedly embraced and this has produced high standards of care.

The project aims to make people across the city more aware of the importance of breastfeeding. The project is actively encouraging all NHS and Leeds City Council venues and other business venues to welcome breastfeeding families.

We need a huge culture shift for breastfeeding to be seen as the norm. Changing individual and cultural beliefs takes time. But if we carry out the actions set out in Food for Life we can help future generations to enjoy better health.

CASE STUDY

Kirsty
Leeds resident
My breastfeeding journey

As soon as my baby was born I was keen to do skin to skin contact and hospital staff encouraged this. There was a student helping me and her enthusiasm and keenness to help me establish feeding was a welcome support. My baby started to suckle and initially it all seemed relatively easy. However, this was short lived. My baby soon became quite frantic in her attempts to feed and I didn't know what to do. Feeding very quickly became excruciatingly painful.

On the post natal ward another very helpful midwife helped me to hand express and at times fed my baby with a syringe when I could no longer cope with the pain of breastfeeding and in the hope that my cracked nipples would start to heal. If it hadn't been for her I'm not sure I could have continued. I tried various feeding positions but the pain continued. I was crying during some feeds. Just when I thought things were improving, things would deteriorate again. I was told it would take a few days for my milk to come in and I was determined not to give up until I'd reached that point in case it became easier. At one point a midwife asked if I'd consider bottle feeding because she didn't want me not to enjoy the early days with my baby.

I was discharged after two nights. I asked what I'd do if I wasn't able to feed my baby so they gave me a cup to allow me to express milk and cup feed her if necessary.

The first night went surprisingly OK but I soon began to experience severe pain again when feeding. Each time I felt I'd made progress it was followed by a backwards step. The days are now a blur but there was a lot of crying and I dreaded every feed. I was lucky to have the support of several friends with new babies who were also breastfeeding and had found it very hard. Friends with older babies said they'd had similar difficulties. I'd been oblivious to the difficulties people can experience when breastfeeding. No one seems to talk about it unless you're also going through it – or maybe I just never asked.

The community midwife arranged for a breastfeeding counsellor to visit me at home. She gave me the same advice I already knew of 'nose to nipple' and 'tummy to mummy'. I felt frustrated as I already knew the theory but it wasn't working for me. I asked why I should continue with breastfeeding. She appeared reluctant to go into this, perhaps because she didn't want to put any pressure on me to continue, but what I really wanted was encouragement. Fortunately my mum provided this. Having breast fed all her children she was keen for me to continue and understood how hard it can be.

Continued over...

Continued...

I hoped things would get better if I could just get through the first two weeks.

The breastfeeding counsellor had helped me improve my feeding position to an extent but I was still struggling. I phoned the breastfeeding help lines and went to the local breastfeeding café which was great for peer support but I was still in significant pain. My friend got me an appointment with another breastfeeding coordinator who introduced me to the biological nurturing approach.

Initially I was sceptical but I decided I had nothing to lose. I couldn't believe it when I laid my baby on my chest and she found her way to latch on without me directing her.

This seemed less painful than the conventional positions I'd been shown in hospital and by other support workers. It took all the pressure off me as my baby took the lead. Slowly but surely things began to improve. The pain slowly reduced and I started to feel better about breast feeding.

Although things were much improved I was still experiencing some discomfort. The breastfeeding coordinator provided me with the reassurance I needed – things were going OK. It's now been eight weeks and a roller coaster of emotions but finally I'm on an even keel. Breastfeeding is the hardest thing I have ever done but it's been worth it to do the best for my baby. It's no longer stressful and a friend has said I'll come to love it. I'm not sure about that but I feel we've come a long way.

Biological nurturing or 'laid-back breastfeeding' is where the mother sits in a comfortable, well-supported, semi-reclined position with her baby on top of her body so that the baby can 'find' the breast. See www.biologicalnurturing.com

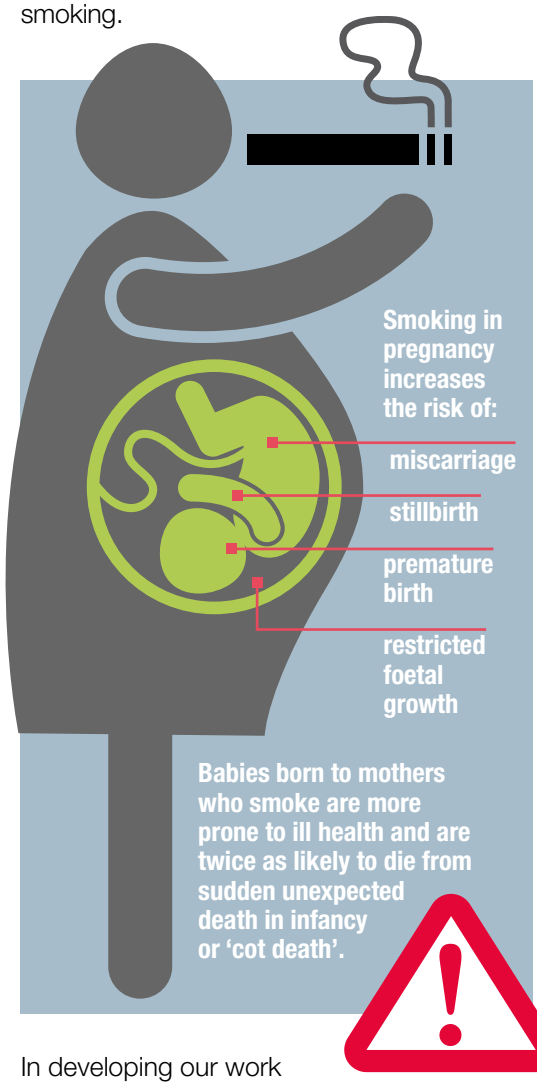
References

15 UNICEF Baby Friendly research overview

16 Chimat Q3 BF rates 12/13

Tackling smoking in pregnancy

Over the years we have come to recognise the risks of smoking in pregnancy, both to the mother and the unborn baby, and also the challenges that women face in trying to stop smoking.



In developing our work over the years we have found that people – including the women themselves – assume that women should just be able to stop smoking once they discover they're pregnant. Many women are able to stop but some require more support. Understanding which groups are more likely to smoke during pregnancy can help us develop appropriate strategies to meet their needs.

One of the challenges is accurately identifying women who smoke so that we can offer them support to stop.

Heather Thomson, Health Improvement Manager

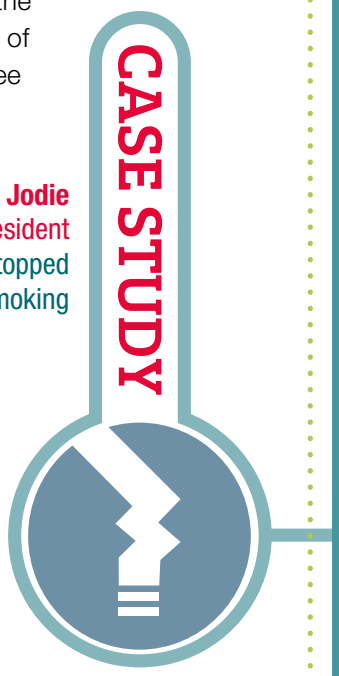
For a range of reasons, including social stigma, women can be reluctant to admit to being a smoker when asked by health professionals.

Studies have found that one in four women may not accurately report their smoking status when asked.[17]

To try to address this we have worked in partnership with community midwives to develop their skills in raising the issue of smoking. We always stress that assessing smoking status is not a one-off intervention but something that should be repeated throughout pregnancy and beyond. This is borne out by the number of women who manage to stop smoking initially but start again later on in their pregnancy. We should always bear in mind that nicotine is a highly addictive substance and people often require repeated attempts to overcome the habit.

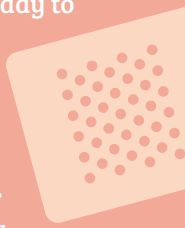
Fran Faflik, Lead Specialist Stop Smoking Advisor (Pregnancy)

Working successfully with pregnant smokers also means recognising the influence of close friends and families in helping a woman stop and stay stopped. With this in mind, we offer holistic support programmes which include working with partners and other members of the household as well as promoting the importance of a smoke-free home.



Jodie
Leeds resident
How I stopped smoking

I'm 24 and my little boy was born in May. I'd been smoking for about 10 years and I really wanted to give up because I was fed up with having a tight feeling in my chest all the time and I was worried about the effect it was having on the baby. My first attempt to stop smoking was at about four months into my pregnancy. It was the midwife who put me in touch with Fresh Air Babies. Nicola [specialist stop smoking advisor] came to see me at home. They come for 12 weeks. At first it was every week, then it went down to every two weeks. I started off with a nicotine inhaler and mouth spray but that didn't work and I started smoking again. When I think about it now I realise that I just wasn't ready to give up at that point.



I tried again at six months. This time I used patches and gum. I decided to try and stop altogether rather than just cutting down and this time it worked. I stopped smoking and I haven't touched a cigarette since. My chest feels much better and I'm going to spend the money I'm saving on driving lessons. Nicola was really nice. She never made me feel guilty or a failure. Even after she stopped coming I knew that I could ring her at any time if I needed more help with it. I feel very proud of myself and grateful to Fresh Air Babies.

References

17 Shipton, D., Tappin, D., Vadiveloo, T., Crossley, J.A., Aitken, D. and Chalmers, J. (2009) Reliance on self-reported smoking during pregnancy underestimates smoking prevalence and reduces the reach of specialist cessation services: results from a retrospective, cross-sectional study. *BMJ*, 339: b4347

The Family Nurse Partnership

Lisa Mincke, Supervisor, Family Nurse Partnership

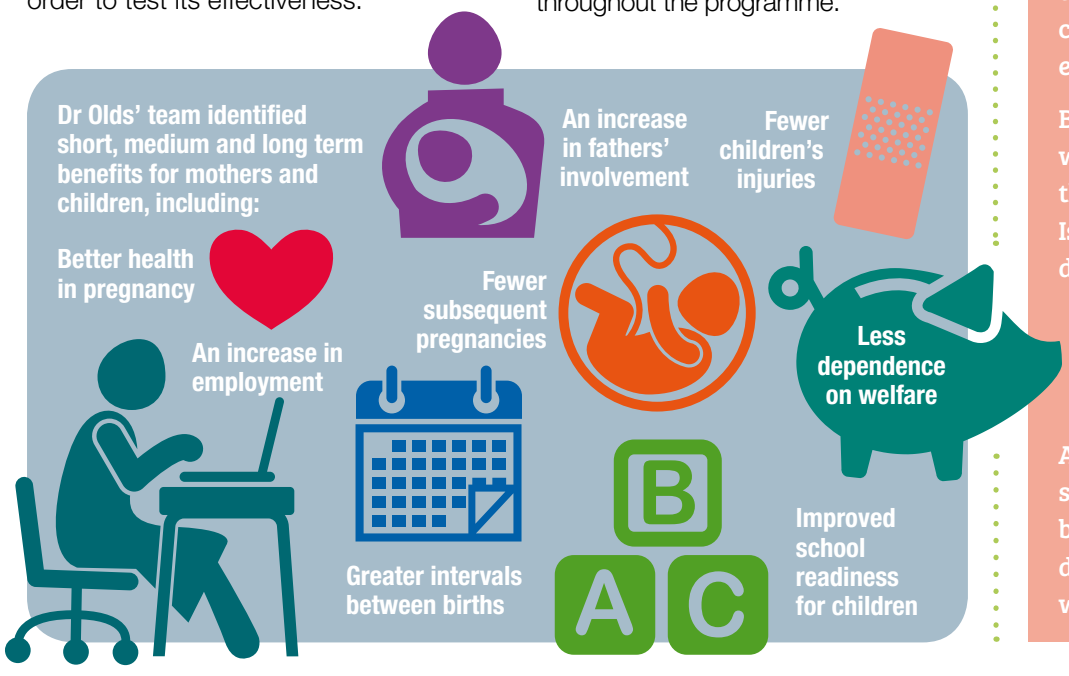
The Family Nurse Partnership is an evidence-based programme to support pregnant teenagers and teenage parents. Choice of having the programme is voluntary. If the teenager chooses to take part, experienced nurses provide intensive and structured home visits from early pregnancy until the child is two years old. The programme focuses on ensuring the future health and wellbeing of both mother and child through work in six key areas of their lives: personal health, environmental health, maternal role, life course development, family and friends, and health and human services.

The evidence behind the programme comes from the US where it has been running for over 30 years. The original programme was developed by Dr David Olds and his team who conducted three large-scale randomised controlled trials in order to test its effectiveness.

The Leeds Family Nurse Partnership has been part of a trial in the UK. The evidence from this trial is expected to be published in early 2014. Until this is available we can't give a definitive picture of how the programme is working here in the UK but the early indicators are promising and point to:

- reduced smoking in pregnancy
- higher rates of breastfeeding than among teenage mothers not on the programme
- parents having increased confidence and aspirations for their future
- parents being positive about their parenting capacity and showing high levels of warm parenting
- parents returning to education and taking up paid employment.

The Partnership reports on its progress via board meetings and the annual review. The last annual review in April 2013 showed that Leeds is doing well, with a high take-up of the programme and a low drop-out rate. Amongst other outcomes, our clients are taking advantage of childhood immunisations and cutting down on smoking, showing good rates for both throughout the programme.



These are Kelly's own words, taken from a video she made in the Diary Room of the Family Nurse Partnership.

Hi, my name's Kelly. I've got a little boy he's 19 months old. It's really hard being a mum, because it's my first child. I always said that having children was hard but I didn't think it would be as hard as it is now. He's noisy, cheeky...but he's also funny, happy, bubbly. He's really big for his age, and tall. He has a size 6 shoe and age 3 to 4 years clothing.

I remember the first day that I met my family nurse – I was really nervous, I didn't know what to say or what I was going to expect, or how it would go. But I was really surprised because she was really nice, really friendly. All the family nurses are, and they always do try to help as much as they possibly can.

If they come out and visit, and there's something you're not sure of, especially when you're a first time mum, with them having experience they can tell you. So that made it easier for me.

Because there were a few things with my little boy where I was thinking, 'Am I doing this right? Is he feeding right?' it was really difficult. And then going into postnatal depression, which I had for 14 months. That was really hard. But they're always there to support you. And I was glad that I had that support, because without them being there to support me – I don't know what I'd have done without them, really.

If there's anything that you really are unsure about, they'll give you tips and advice about what to do with your child. There was one stage where my little boy was really unsettled and I didn't know what to do, I couldn't settle him or distract him with anything. And I spoke to the family nurse, and she came out to see me and she was really helpful. She gave me loads of tips about what to do to calm him down. She talked about self-soothing as well. So that was really good. But she did say, the best thing is to persevere with them, because it doesn't always work first time.

But they always give you options of what mums want to do. It's down to the mum, of what she feels best to do with her child, because what suits one mum and baby doesn't suit the rest.

So I found that really helpful. I mean, there's some things that I've tried from a family nurse, and it hasn't worked, and so I'll speak to the family nurse and say well, this hasn't really worked well, what else can I try? Because I'm always open to different options to try and be the best mum I can be to my little boy.

It is hard. I get frustrated sometimes, and distressed. Sometimes you just feel like crying, especially when your little boy's crying, and he's upset, and you just don't know what to do for the best. So it is hard, but when you've got family nurses there that are helpful, and friendly – they care – and it's nice to have somebody there that you can talk to and that can help you through a difficult time, a difficult stage in your life when you're bringing up kids – because it's not easy.

There's a lot of things I've enjoyed about my little boy. I loved it when he started to sit up by himself.

To see him sat there on his own – he looked properly independent. And he could just sit up on his own, and then he started crawling – I loved that! And now he's up and walking – he's not even walking any more, he's running!

And I loved his first words – he said 'Dada'. I wished it was Mummy but no, it's Daddy! He's wanting to be out and about, mixing with other children, playing, because he's in a nursery and he absolutely loves it there. When I go and pick him back up from nursery, he doesn't want to come home! But now to see him also when he can feed himself as well! ... It's just really nice.

I would recommend family nurses to any young mums and babies – and everybody sooner or later in their life needs to put a hand out and ask for help. I was at that stage in my life, with my little boy. And it was hard to put your hand out for help because you want to be independent. You want to stand on your own two feet. But everybody needs help. And there's people out there that can help you, you've just got to ask for the help. And if you don't ask you don't get. So yes, I would definitely recommend them – definitely – to anybody.

Working in the Family Nurse Partnership has many rewards as well as challenges. The workload is busy and the relationships intense and it can be very emotionally demanding. Sometimes the family nurse is a client's first experience of someone who is reliable and trustworthy and it takes time and skill to build up that trust. Weekly meetings with the team supervisor for oversight and support help us deal with some of these demands. It is also emotionally rewarding. Nothing can compare to the sense of pride, joy and satisfaction we feel when we share an achievement with our clients and their babies. As a family nurse once said:

> "This is the hardest job I have ever loved."

CASE STUDY

Kelly
Leeds resident
Being a new mum

Sarah Erskine, Advanced Health Improvement Specialist – Maternity and Infants

Using social marketing to combat infant mortality

In 2011, I was asked to coordinate a piece of work aimed at reducing the number of babies that die whilst sleeping alongside an adult on a bed or sofa (co-sleeping). The Leeds Child Death Overview Panel identified co-sleeping as a public health issue in its 2010 report. A review by West Yorkshire Police published in the same year found that there were 17 co-sleeping deaths over a three-year period in the region. Nine of these deaths were in Leeds. Inner East and Inner South Leeds were areas of particular concern.

The death of any infant is an awful loss and has an impact upon the parents and wider family forever. It somehow seems even worse when a baby dies because of a tragic accident, especially when it's preventable. We hope to see a decline in the numbers of tragic infant deaths in the city. We're working with communities to develop campaigns that speak to them, and providing people with accurate information and practical and emotional support.

Developing the campaign

Public health is increasingly using social marketing to develop campaign work. Social marketing is defined as using marketing principles for a health or social good. It's about working very closely with communities to find out what their lives are like and what prevents or triggers particular behaviours. It also involves those same communities in designing and testing campaign materials. These are often quite innovative and use a range of media.

An immediate problem with tackling co-sleeping is that public health strongly promotes and supports breastfeeding. Night time feeding is incredibly important for mothers to continue breastfeeding successfully and breastfeeding itself reduces the risk of infant death. Feeding whilst lying down and keeping baby close ensures that mum and baby have enough rest and that mum can respond to baby's feeding cues.

We needed to focus on the risks associated with certain behaviours and not demonise sharing a bed in itself.

We commissioned a national social marketing company to carry out research and develop innovative materials to reach target communities in Inner East and Inner South Leeds. The agency carried out a survey and one-to-one interviews with professionals. It also ran focus groups with local parents and their 'influencers' (aunties, grandparents, carers).

Let me sleep safe, let me sleep on my own

Running the campaign

Local parents and frontline professionals in the two areas came up with the campaign line 'Let me sleep safe, let me sleep on my own'. We printed and distributed leaflets and posters. Crucially, we timed the campaign launch and the distribution of campaign materials to coincide with the delivery of staff briefings. This meant that staff from all sectors (including housing, health, social care, and early years) who worked face-to-face with parents were giving the same key message.

We ran follow-up focus groups after three months and parents and staff told us they liked the materials. But parents also told us that despite knowing the risks they would still bring their babies into bed to settle them. As a result, we amended the information in the leaflet. This now advises parents to seek help and advice about ways to soothe their infants.

I bring my baby into bed to settle it

I felt that the messages from professionals were inconsistent

Parents also thought they would be judged if they told professionals that they brought a baby into bed with them. Very often they didn't tell us and so missed out on having an open discussion about the risks.

At Christmas 2012 we produced beer mats for local pubs with the same campaign line but with a harder hitting message. The mats informed people of the dangers of falling asleep with their baby if they had taken alcohol or drugs, or had been smoking. This campaign also ran over the summer months in 2013.

Campaigns such as 'Let Me Sleep Safe' are vital in raising awareness of the risks associated with hazardous co-sleeping practices. If all professionals give the same message, parents can feel confident about the information they're getting. The next step will be to run focus groups in the target areas. We'll also re-design the materials if needed so that the message remains current and reaches its target audience.

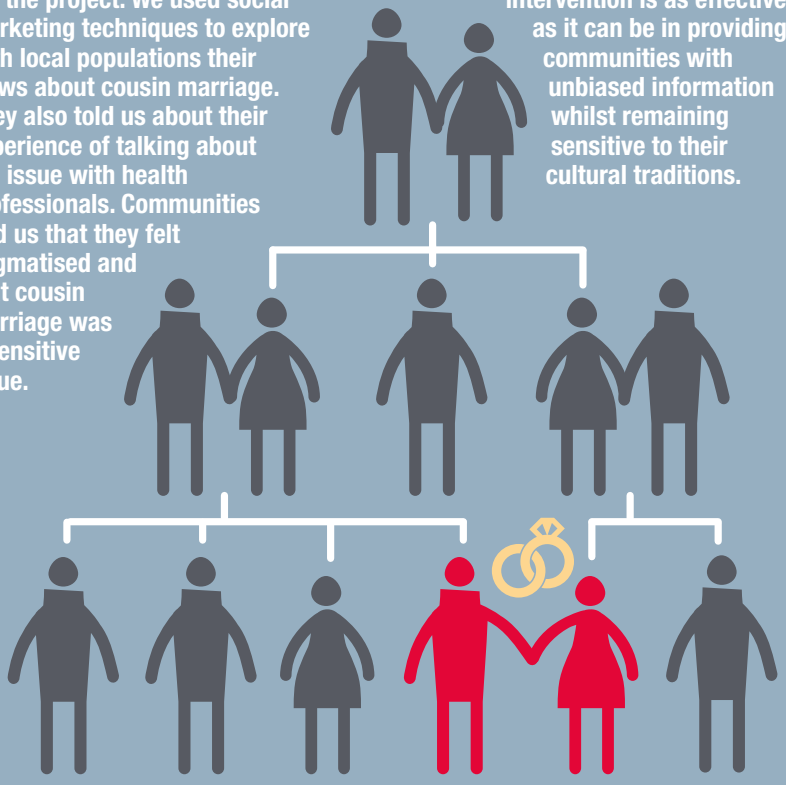
Building on a social marketing approach – cousin marriage

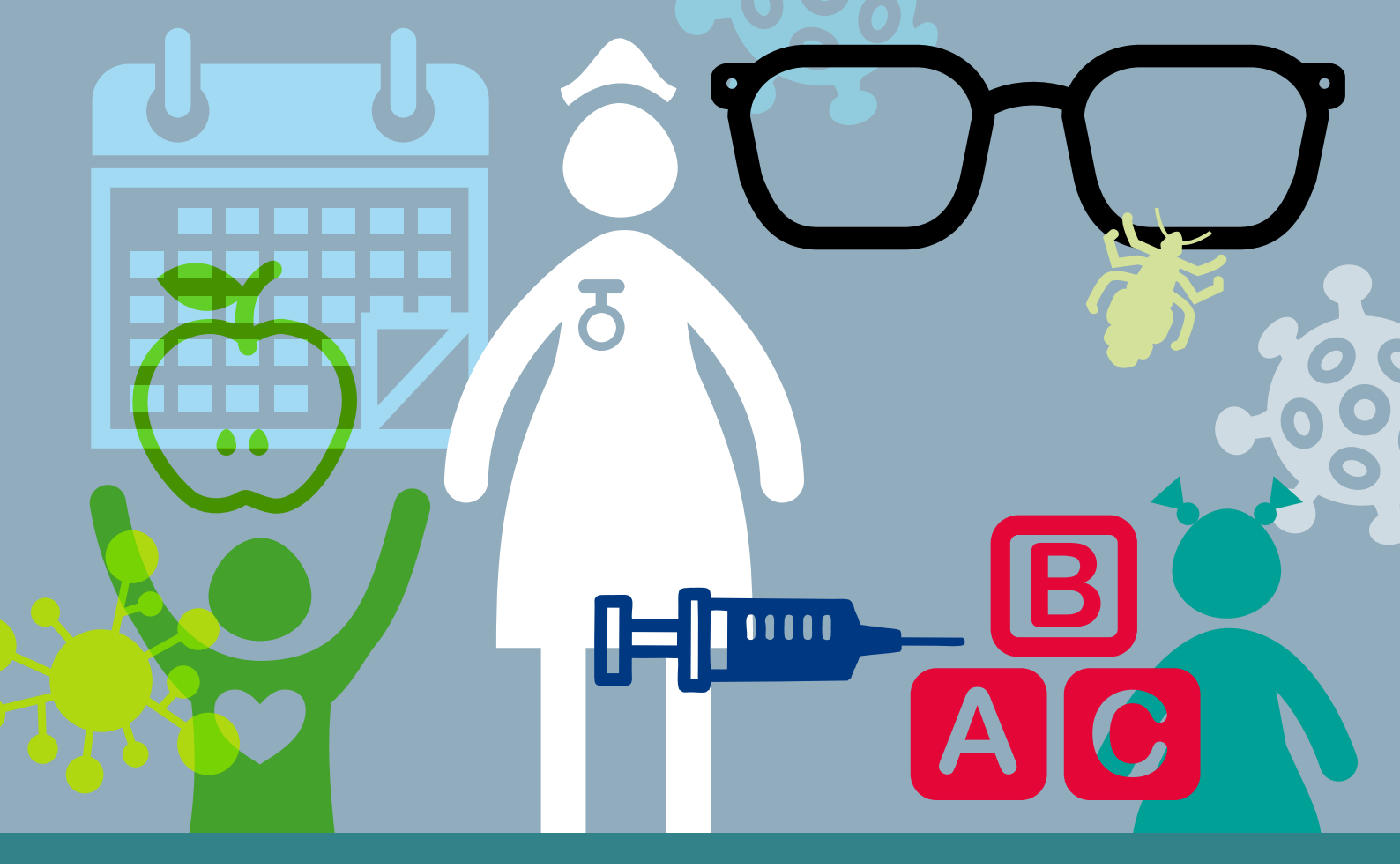
Social marketing has also been used to address another cause of infant death in the city. Cousin marriage is common in Leeds within communities of Pakistani and Bangladeshi origin. It has a long cultural history and is an important tradition within these populations. Very occasionally, though, it can lead to inherited conditions which cause disability and sometimes death.

A researcher from Sheffield University led the project. We used social marketing techniques to explore with local populations their views about cousin marriage. They also told us about their experience of talking about the issue with health professionals. Communities told us that they felt stigmatised and that cousin marriage was a sensitive issue.

However they did want to talk about the health issues involved and get good quality information and advice.

As a result of the project there is now a leaflet and a website along with audio and video clips in both Urdu and English. Local people helped design these materials in direct response to their needs and wishes. This ensures that the public health intervention is as effective as it can be in providing communities with unbiased information whilst remaining sensitive to their cultural traditions.



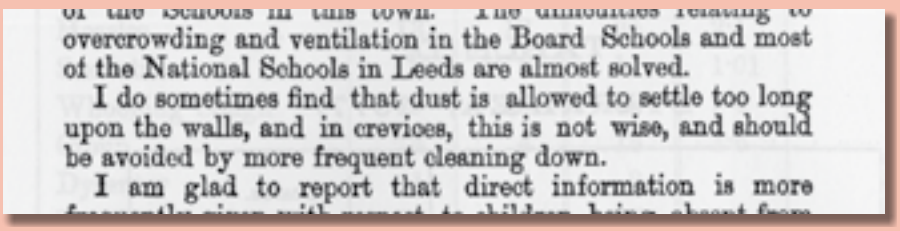


Improving health in schools

Dr Sharon Yellin, Consultant in Public Health Medicine

Managing health in schools – an overview

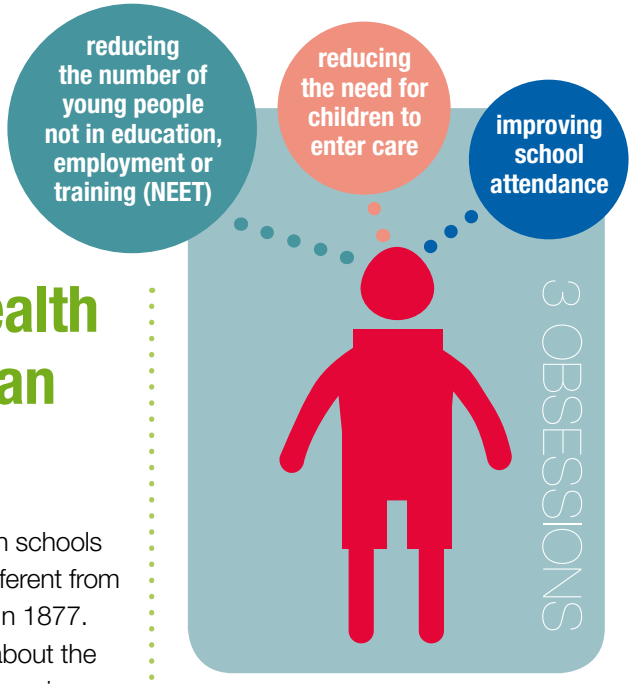
The management of health in schools in the 21st century is very different from that described by Dr Goldie in 1877. We no longer worry unduly about the dust in the school walls and crevices. But overcrowding and ventilation are still relevant and the quality of school buildings remains topical.



of the schools in this town. The difficulties relating to overcrowding and ventilation in the Board Schools and most of the National Schools in Leeds are almost solved.

I do sometimes find that dust is allowed to settle too long upon the walls, and in crevices, this is not wise, and should be avoided by more frequent cleaning down.

I am glad to report that direct information is more



Other issues also persist. We are still very concerned about levels of absence from school. Indeed, school attendance is one of the '3 Obsessions' set out in the Leeds Children and Young People's Plan (CYPP).[18]

The CYPP recognises that every child has the right to achieve his or her potential through learning and thereby to open up a lifetime of opportunity.

And though infectious disease is no longer the most significant cause of school absence, we do see schools as a focus for public health. As well as settings for promoting and delivering immunisations, they are also focal points for the spread of infections such as flu, and the centre of occasional outbreaks of illnesses such as norovirus.

A School Nursing Service was first established in Leeds in 1914. As the service approaches its 100th anniversary, this is a good moment to reflect on its role. In her article on page 52, Sally Norfolk, a senior school nurse who retired this year, looks back at the changes she has seen in the service over a school nursing career that spans 28 years.

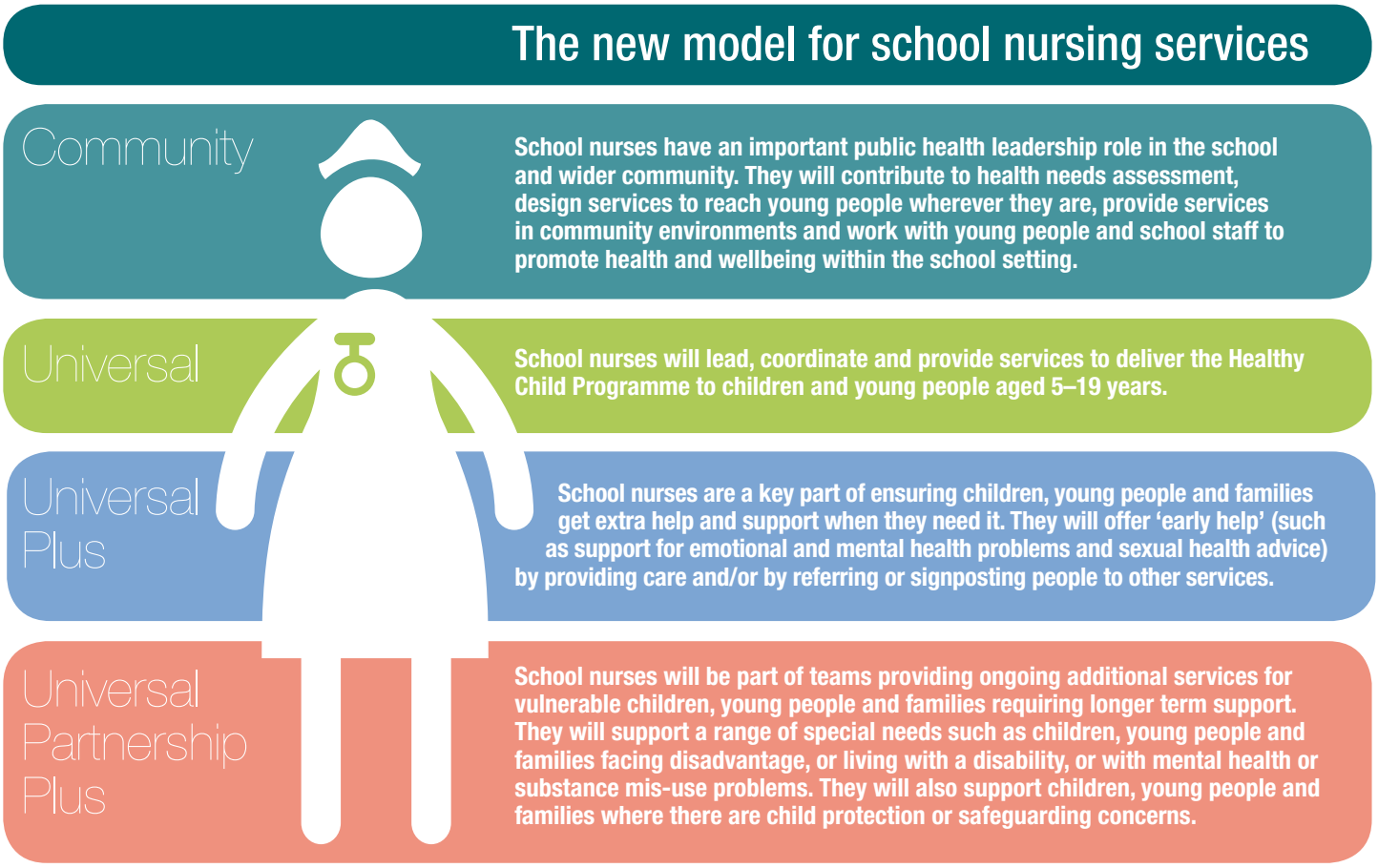
Looking forward, we're now at an exciting moment for school nursing as three important policy changes converge. These I feel will bring about a renaissance in the school nursing service.

1 The first of these was the launch in February 2012, of a new national vision for the service.[19] This eagerly awaited guidance places school nurses firmly at the centre of the public health programme for children and young people. It recognises school nurses as champions and leaders of the Healthy Child Programme 5-19. It sets out a programme which is:

> "...visible, accessible and confidential, which delivers universal public health and ensures that there is early help and advice available to young people at the times when they need it"

The new model, which ties up seamlessly with the model for health visiting services for under 5s, is based on four tiers of service.

The new model for school nursing services



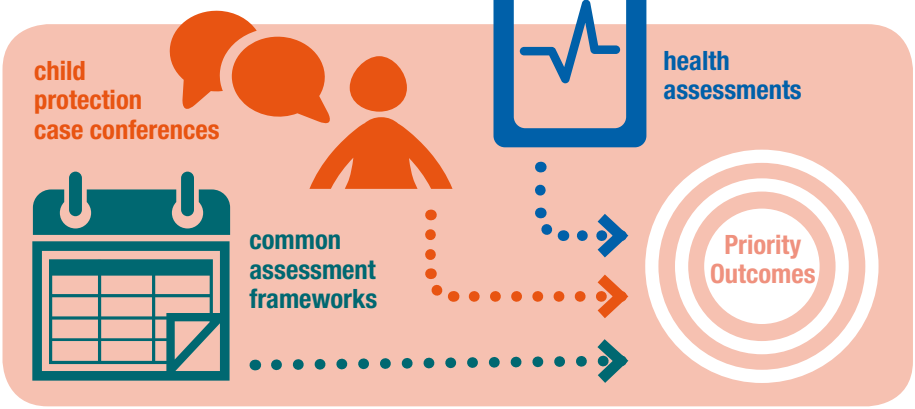
Adapted from Department of Health (2012) *Getting it Right for Children, Young People and Families. Maximising the contribution of the school nursing team: Vision and call to action.*

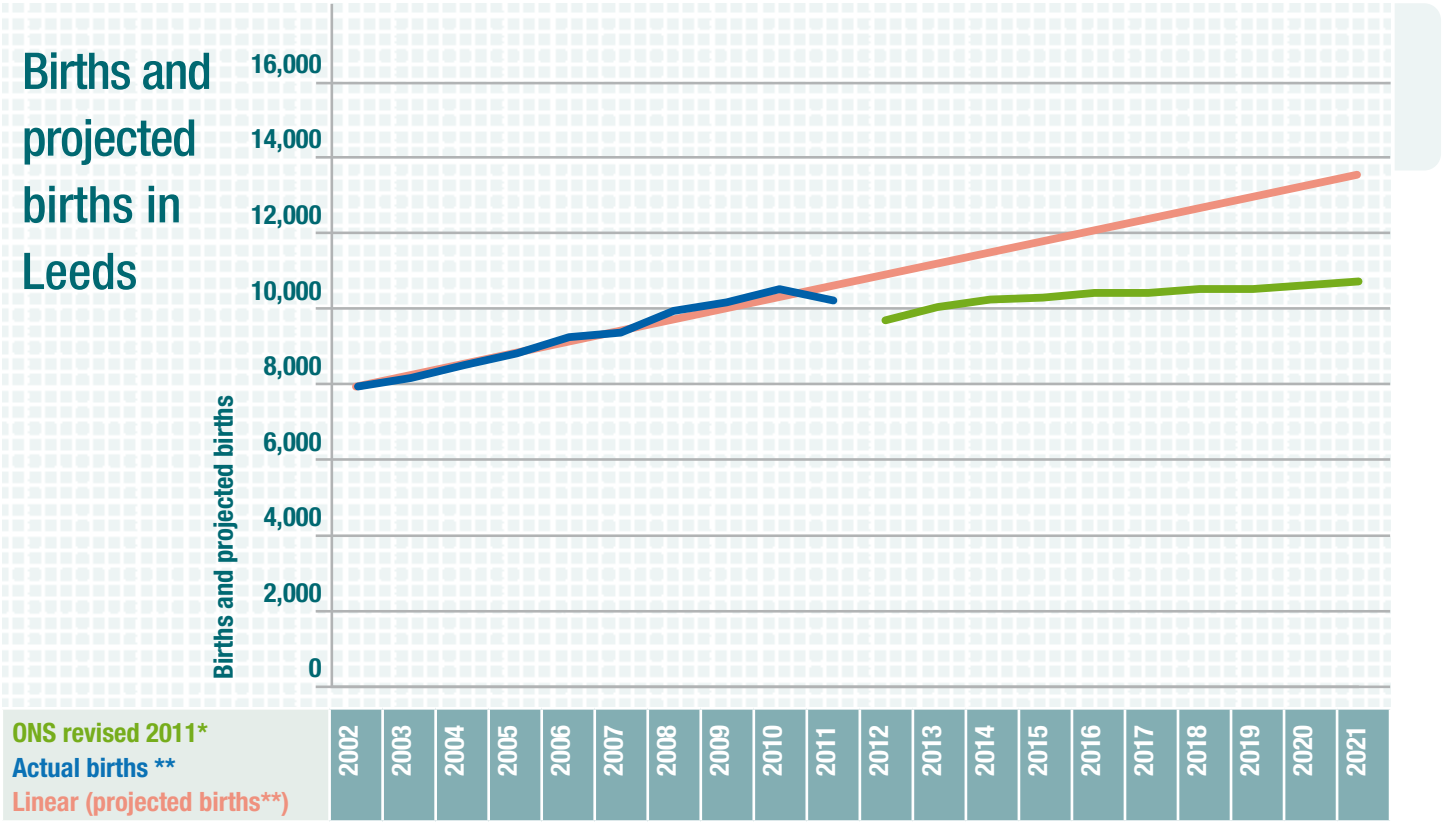
2 The second of these policy changes has been more gradual but, in my opinion, no less profound. That change is the way that public sector services have evolved towards a strong focus on outcomes. Outcomes are the changes, benefits, learning or other effects that result from the work we do. The Public Health Outcomes Framework,[20] NHS Outcomes Framework[21] and the Children and Young People's Health Outcomes Forum report[22] contain a range of explicit outcomes for children and young people.

In Leeds, these are built into our local Health and Wellbeing Strategy and our Children and Young People's Plan, and run throughout our service plans and specifications. These include a newly developed 'performance dashboard' which allows us to keep track of progress in a real way.

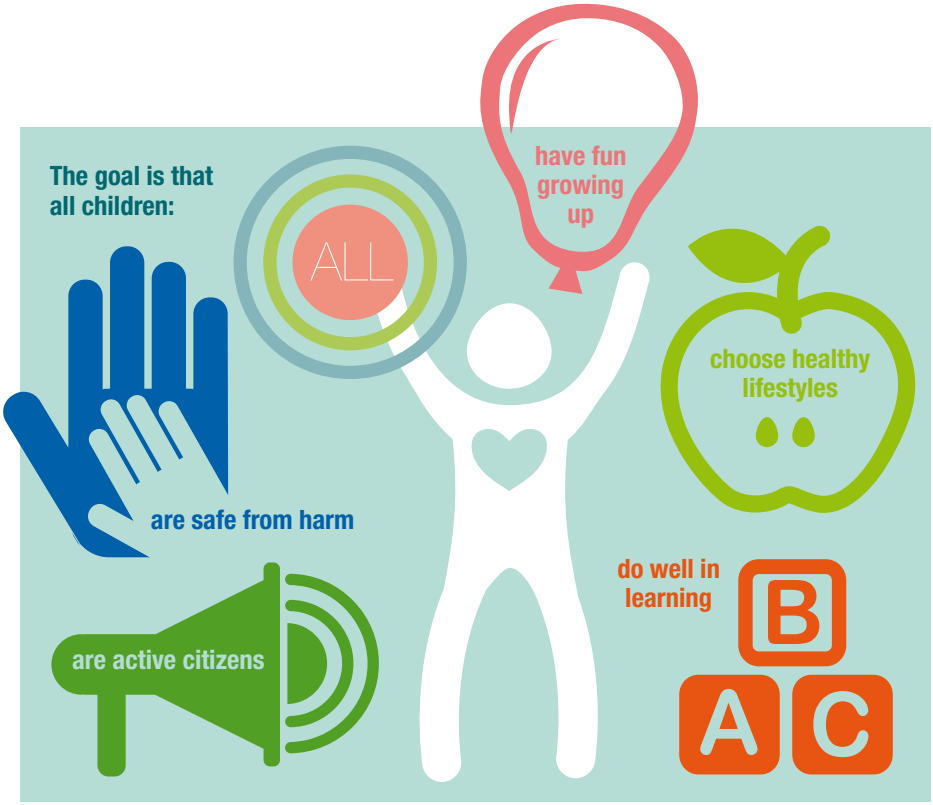
For example, we're regularly monitoring how school nurses contribute to various safeguarding processes. Activities include attending child protection case conferences, completing health assessments for looked after children, and leading CAFs (common assessment frameworks) for school age children. All of these make a direct contribution to the priority outcomes in the city's Children and Young People's Plan, such as reducing the number of children taken into care.

3 The third major change is the shift in responsibility for commissioning school nursing services from the NHS to the local authority, led by public health. I welcome this opportunity to align our commissioning strategy even more closely with aspirations for Leeds to become a Child Friendly City.[23]





Source: **ONS 2011-based Population Projections, **ONS Births 2002-2011*



References

18 http://www.leedsinitiative.org/Childrenandyoungpeoplesplan.aspx

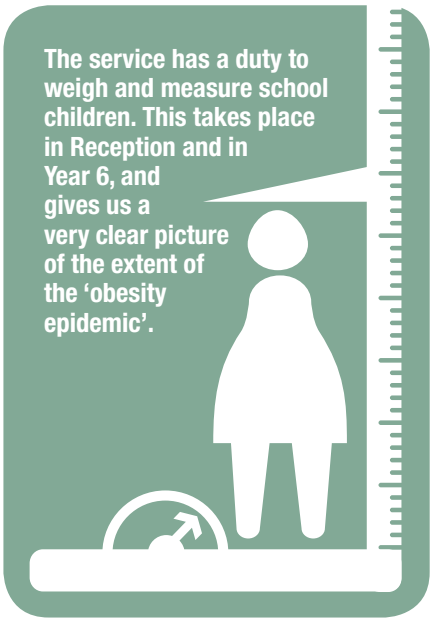
19 Department of Health (2012) *Getting it Right for Children, Young People and Families. Maximising the contribution of the school nursing team: Vision and call to action*. London: Department of Health https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/152212/dh_133352.pdf

20 https://www.gov.uk/government/publications/healthy-lives-healthy-people-improving-outcomes-and-supporting-transparency

21 https://www.gov.uk/government/publications/nhs-outcomes-framework-2013-to-2014

22 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/156062/CYP-report.pdf

23 http://www.leeds.gov.uk/residents/Pages/Child-friendly-Leeds.aspx



Happily, at this moment of convergence, we have taken the opportunity in Leeds to invest additional resources from public health budgets in the school nursing service. This gives a welcome boost to a service faced with a growing population (see opposite) and an increased workload. Safeguarding work, in particular, has increased following the death of Baby Peter in Haringey and subsequent national reports.

These resources means the service is well placed to respond to the new national vision. And I'm pleased to say that this opportunity has been grasped with both hands.

At the time of writing, the service is undertaking a detailed review. This will take account of the views of children and young people and gather the input of a wide range of partners. The result will be a re-empowered and invigorated school nursing service, with increased staffing, a more visible profile, and a new model of working.

Recommendation

— The Leeds Health and Wellbeing Board should support the development of a new outcome driven service specification for 2014/15 that will support the implementation of the current review of the school nursing service.

Sally Norfolk, retired school nurse, team leader and operational lead

School nursing from 1985 to 2013

The first school nurse in England was Amy Hughes who was employed by a London authority in 1892. The School Health Service (SHS) itself began with the Education Act of 1907. This introduced periodic medical inspections to address government concerns over the poor health of school children and of young men who'd been recruited to fight in the Boer War. Local authorities were responsible for the service until 1974 when we came under NHS control.

There has only ever been a statutory duty to provide inspections of pupils at 'appropriate intervals', although over the years the service has offered a wide range of other services, as you'll see. The relevance and effectiveness of these services has come under increasing scrutiny. Services have developed in response to government statute and guidance and in response to local need, but it's proved difficult to assess optimum staffing levels and define the role of the school nurse because of a lack of robust evidence as to the effectiveness of services. The government's recent 'Call to Action' (Department of Health, 2012) is working to address this.

When I began my career, school nurses were managed alongside health visitors, with no professional leadership of their own. I shadowed an experienced nurse for a few months – then was let loose on the unsuspecting public! I started my career in North West Leeds including the Otley area. Children and parents saw a lot of us. We were at all the school 'new parent' talks. We were there when the Reception children had their medical examinations. As well as supporting the doctors, we'd make time to help parents with any issues or concerns. Review medicals were held where there had been an identified problem. There were also annual 'statement medicals' for children who needed extra support in school.

In those days we'd see all primary school children every term. In the first term we'd check their height and weight and distance vision. (In later years, we'd also do hearing tests in Year 1.)

In the second and third terms we'd see the children in small groups or in the classroom setting for health promotion talks on topics like puberty, hygiene, home safety, healthy eating, etc. We did checks for head lice at the beginning of every school year and also checked feet and skin. We also saw any children that school staff were concerned about. The only consent we had was implied consent. If parents hadn't contacted us following the information sent out when their child started school, we assumed they were happy for us to see their children. As we spent most of our time in schools, we built up a good relationship with staff and were very much part of the team.

We saw all high (secondary) school children twice for individual checks, including height, weight and distance vision (and colour vision for boys), and we carried out the immunisation programme. We held well-attended weekly drop-in sessions and delivered health promotion and awareness-raising sessions on puberty, sexual health, smoking, drugs, and so on – all very important messages for young people growing up.

We also took our health promotion message beyond the school gates. We'd take 'road shows' to local libraries, market places, shopping centres and different targeted schools. We covered subjects such as sun safety, road safety, home safety, head lice, or just promoted our service. We made our own resources and only occasionally sought funding if we needed to.

Working in the North West area we tended to be professionally isolated from the rest of the city. Only now am I aware of the huge variation in practice and documentation across the city. In some areas, record-keeping was minimal. Nurses just ticked a list when they'd seen a child!

In 1996 I moved to Bramley as a School Nurse Coordinator. This was the beginning of a truly city-wide service. I hadn't had much experience of child protection work whilst I was in Otley but the move to Bramley changed all that. Working in a more socially deprived area proved a steep learning curve, but I loved it! There was a real community spirit. We worked closely with other agencies to deliver public health work in the community – running holiday breakfast clubs for kids, setting up a food co-operative with residents to provide them with fresh fruit and vegetables.

We worked alongside youth workers and housing to develop a youth/drop-in centre in a house donated to us. We supported annual community events such as the summer Fun Days for children, and so on.

Our daily drop-in 'nit' sessions at the clinic were always well attended! I also remember a 'clothes cupboard' where parents could come to get free clothes that had been donated to us. We got hold of equipment like washing machines for families from the Rowntree Foundation, and organised free holidays for families that had never had a holiday before. We supported the annual holidays to Silverdale by checking that the children were well enough to attend and didn't have any rashes or infestations, and noting down which children wet the bed. [Silverdale was a holiday camp on the coast owned by Leeds City Council. It was run throughout the summer and schools could put children's names forward to enable them to go for a week to gain new experiences.] I also held weekly sessions with the health visitor at the local women's hostel, to support the mothers with any health issues their children had. This was especially important as some of the children were missing school because their mothers were fleeing violent partners or moving house repeatedly.

During this time we were also involved in mass immunisation events. As well as schools, we attended sessions at the university and in clubs to try to involve young people who'd left school – or who weren't turning up to school.

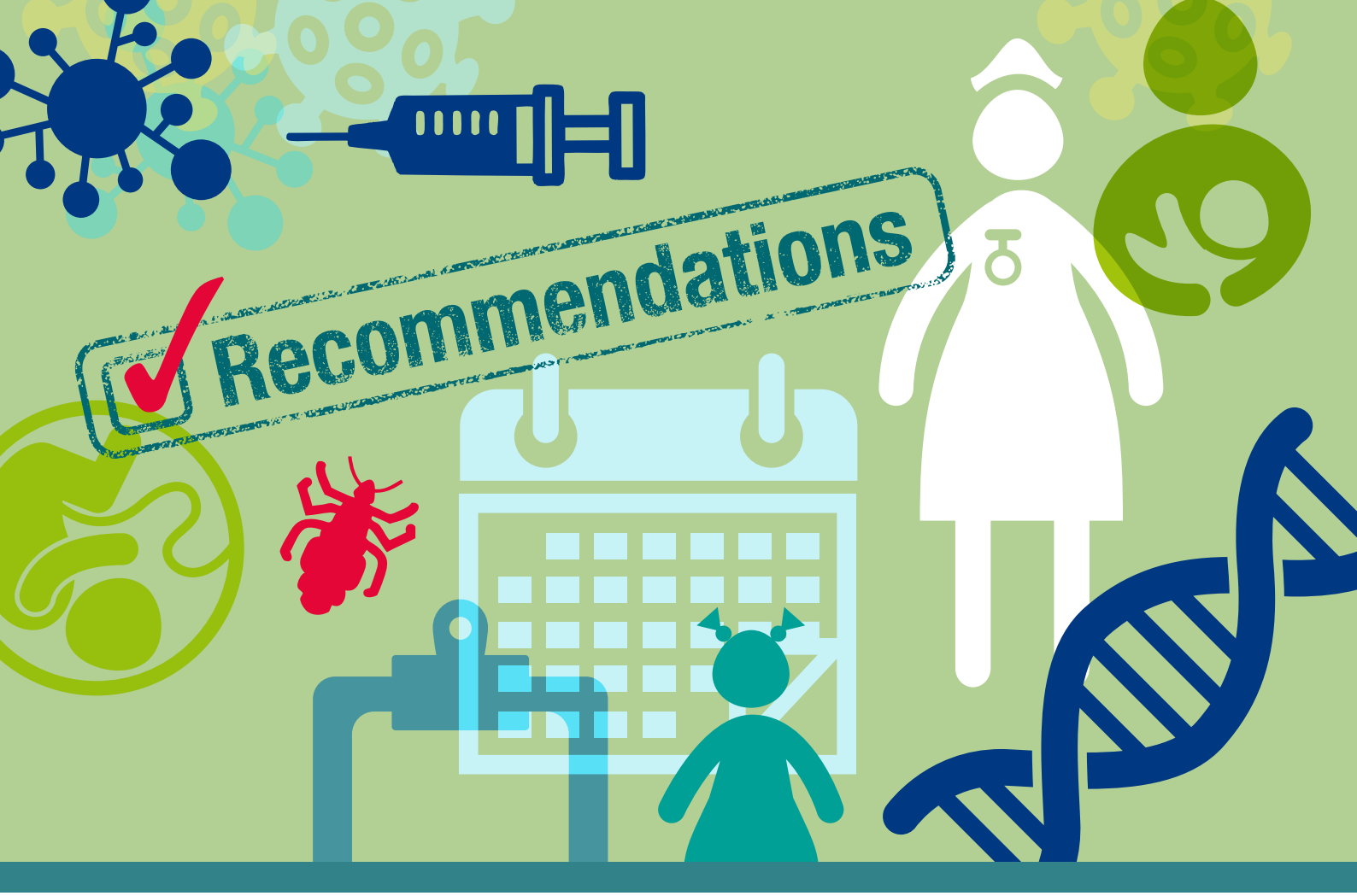
Over time, school medical sessions gradually gave way to clinic based sessions. The annual contact with primary school children became two-yearly. Eventually we only saw children twice during their time at primary school. Hearing tests were transferred to the audiology service, and an immunisation team was set up to deliver all school immunisations. High school contacts were reduced to the first year only, but even these were eventually stopped although we continued with our health promotion work. For example, there were multi-agency annual health fairs where young people could get information directly from health professionals on a whole range of issues. They could find out more about sexual health, STIs, breast and testicular examination, mental health, stress/relaxation, coping strategies, where to go to talk to someone, smoking cessation, drug awareness, and healthy eating and exercise.

We developed enuretic (bed wetting) clinics over time. These started as home visits delivered as and when they were needed but developed into organised clinic sessions held around the city, using evidence-based approaches.

In 2005 I moved into management. Over recent years much of our public health work has given way to new priorities – mainly child protection work, annual health needs assessments for looked after children, support for children with medical/special needs and the National Child Measurement Programme. We're also expected to do more robust record keeping and report writing, and undergo statutory and mandatory training. All this has meant less time for clinical work. Contacts with schools, other agencies, parents and children have reduced to the point where our service is nowhere near as visible as it was. And so I think our potential to improve children's health isn't really understood.

That's why the government's recent work is very welcome. With the right investment, school nursing can once again truly be a public health service. We'll be more visible and in a position to communicate effectively with young people using up-to-date technology. This means that we'll be able to make a real difference in the lives of some of the more disadvantaged children.

> "School nursing will play its part in enabling all children to reach their full potential, and become healthy adults. So we will have come full circle, as this is why the service was first established all those years ago."



Recommendations

Recommendations 2013

Leeds City Council now has the local leadership role for improving the public's health.

In Dr Robinson and Dr Goldie's day, the Sanitary Committee was the important Council Committee. In 1877 this was chaired by Alderman John Wood. Today there is the Leeds Health and Wellbeing Board, chaired by Councillor Lisa Mulherin. In contrast to 1877, this sub-committee of the Council has not just councillors as members but also the NHS, the third sector and Healthwatch, the consumer champion for health and social care.

The Heath and Wellbeing Board brings key partners together to work jointly to improve health and wellbeing and reduce health inequalities. In acknowledging the new leadership role of the Council, my recommendations this year are directed to both Leeds City Council and to the Leeds Health and Wellbeing Board.

There is, though, no getting away from the difficult economic times ahead – and this will impact on the way the Council takes on its new leadership role for public health. But we are fortunate that Leeds City Council wants to rise to the challenge and adapt and thrive for the future. Leeds City Council has led a national Commission on the Future of Local Government www.civicenterpriseuk.org.

There is an explicit call for local government to rediscover the entrepreneurial spirit of the late Victorian era; to stimulate economic growth; to establish a 21st century infrastructure; and to mobilise the talents of citizens and communities.

The ambitions set out by the national Commission have been embraced by Leeds City Council. So this is a far more conducive Council environment to improve health and reduce health inequalities than that faced by Dr Robinson and Dr Goldie. In 1871 Dr Robinson wanted to counter "the impression the enemies to human life had been quietly allowed to take the citadel whilst its defenders slept". In 2013 the defenders are very much alive and kicking. The new leadership role of the Council should ensure that these defenders become stronger and more numerous so that Leeds has a healthy, sustainable future.

These are my recommendations for 2013:

Controlling communicable diseases

Deaths from communicable/ infectious diseases are falling but they are still an issue.

- The Leeds Health and Wellbeing Board should establish a Health Protection Board. This would raise awareness of communicable diseases and other environmental hazards and deal with the issues as they arise.
- The Leeds Health Protection Board should:
  - adopt national guidance on tackling antibiotic resistance
  - promote this guidance to health professionals and the public
  - review local surveillance mechanisms and ensure we can deal with the new challenges posed by drug-resistant organisms and new infections.

Measles and the national MMR catch-up campaign

- The Leeds Health and Wellbeing Board should continue to emphasise the importance of vaccination programmes.
- Leeds City Council should work with Public Health England, GPs and Leeds Community Healthcare to communicate well with the public and ensure delivery of an effective service.

Fighting tuberculosis

- The Leeds Health Protection Board should work with West Yorkshire partners to act on recommendations from the independent TB review. This will reduce the rate of TB infections.

Vaccinating against whooping cough

- Leeds City Council should continue to work with primary care and midwifery professionals to increase efforts to vaccinate pregnant women against whooping cough.

Reducing air pollution

- Leeds City Council should continue work to improve air quality. It should work with other West Yorkshire local authorities to address the issues on a regional basis.
- Leeds City Council should lobby central government to influence aspects of air quality beyond the control of local government.

Reducing infant deaths

- Leeds City Council should continue to work in partnership pro-actively to address the prevention of infant deaths as part of the 'Best Start' priority of the Health and Wellbeing Board.
- Leeds Health and Wellbeing Board should take forward, in partnership, the findings of the review of antenatal and postnatal support needs of women and families with complex social factors.

Improving health in schools

- The Leeds Health and Wellbeing Board should support the development of a new outcome driven service specification for 2014/15 that will support the implementation of the current review of the school nursing service.

Progress with 2012 recommendations

Last year the Director of Public Health made these recommendations to the Health and Wellbeing Board:

Ensure that all health and social care professionals understand the benefits of behaviour change interventions.

Organisational change programmes should support the delivery of behaviour change interventions by all practitioners working with individuals and communities.

Every organisation and team with opportunities to influence individual behaviour change should aim to improve the scale of interventions so that they are routine day-to-day practice for all front line staff working with individuals.

Ensure that the principles of 'making every contact count' are embedded in all training for health professionals, and the wider public health workforce.

Invest in action to strengthen community resilience and improve community assets that support healthy changes in behaviour.

Make this a priority in neighbourhoods with the highest rates of preventable illness and early death.

Support legislation for plain packaging on all tobacco products.

Support legislation for a minimum price per unit on all sales of alcohol.

Support legislation for traffic light labelling on the front of all food and drink products.

Work with West Yorkshire Trading Standards to enforce new legislation banning displays of tobacco at the point of sale.

Good progress

Progress made but more is needed

No progress made

Acknowledgements

A warm thank you to all the people who have contributed to this year's annual report.

Sections 1-4 and case studies

Simon Balmer, Louise Cresswell, Joanne Davis, Sarah Erskine, Michelle Higgins, Sally Goodwin-Mills, Heather Thomson, Jon Tubby, Sharon Yellin, Leeds City Council; Fran Faflik, Leeds NHS Stop Smoking Services; Mike Gent, Yorkshire and the Humber Public Health England Centre; Lisa Mincke, Family Nurse Partnership; Amanda Connolly, Jane Howarth, Jodie, Kelly, Kirsty, 'Mandy', Leeds residents, and Sally Norfolk, retired school nurse, for their personal stories.

Facts and figures 2013

Frank Wood, Richard Dixon, James Womack, Leeds City Council; Mike Gent, Richard Hufton, Yorkshire and the Humber Public Health England Centre.

Full online data sets

Richard Dixon, Nichola Stephens, Adam Taylor, James Womack, Frank Wood, Leeds City Council.

Edit, design and print

Barbara MacDonald, Penny Mares, Editors.

Lindy Dark, Carl Whalley, Leeds City Council.

Leeds City Council Print Management.

Communications support

Philip Morcom, Stephanie Sewley, Leeds City Council.

Project management

Kathryn Williams, Leeds City Council.

Project support

Julie Allen, Tracey Nichols, Dawn Smallwood, Leeds City Council.

Photo credits

Thank you to the NHS Photo Library, and to Leodis, the Leeds Library & Information Service's photographic archive of Leeds www.leodis.net for kind permission to reproduce photographs and images.

Thank you to Graham Fotherby, Leeds City Council Communications and Marketing Team, and James Womack, Leeds City Council Office of the Director of Public Health, for photography.

A special thank you to all the people who kindly agreed to be photographed for this report, and to the Thackray Medical Museum, Leeds for allowing us to photograph in the museum.

This report is dedicated to Dr Robinson and Dr Goldie, who were the first and second Medical Officers of Health for Leeds – from the latest to have followed in their footsteps.

Notes

Leeds CITY COUNCIL

A summary of this report can be made available in large print, Braille, on audiotape or translated, upon request. Please contact the public health intelligence team PHI.Requests@leeds.gov.uk

This report is available online at www.leeds.gov.uk/DPHAR

We welcome feedback about our annual report or any of our other documents. If you have any comments please speak to Kathryn Williams, Project/Information Manager on 0113 3957341 or email Kathryn.williams2@leeds.gov.uk

Editing team: Penny Mares, Barbara MacDonald, Penny Mares Associates penny.mares@btinternet.com

Design team: Communications and marketing team, Leeds City Council [carl.whalley@leeds.gov.uk]

Photography credits are listed on page 56.

Print: Leeds City Council Print Management

DPHAR 081113-1

1877 > 2013