Birmingham City Council

175 YEARS OF PUBLIC HEALTH IN BIRMINGHAM

A BOLDER HEALTHIER BIRMINGHAM

Contents

List of Abbreviations

Abbreviation	Full Phrase
ARCH	Asylum Seekers and Refugees Centre for Health
ARP	Air Raid Precautions
BAME	Black, Asian and Minority Ethnic
BLACHIR	Birmingham and Lewisham African Caribbean Health Inequalities Review
BMI	Body Mass Index
CAZ	Clean Air Zone
CCG	Clinical Commissioning Group
CHP	Community Health Profile
CIC	Community Interest Company
COPD	Chronic Obstructive Pulmonary Disease
COVID-19	Corona VIrus Disease – 2019
CVD	Cardiovascular Diseases
DPH	Director of Public Health
DHA	District Health Authority
GP	General Practitioner
HA	Health Authority
HIV	Human Immunodeficiency Virus
HMOs	Houses of Multiple Occupation

Abbreviation	Full Phrase
LA	Local Authority
MCN	Multiple and Complex Needs
MMR	Measles, Mumps and Rubella Vaccination
MOH	Medical Officer of Health
MOEH	Medical Officer of Environmental Health
NHS	National Health Service
NHSS	National Health Schools Status
OHID	Office for Health Improvement and Disparities
PCT	Primary Care Trust
PH	Public Health
PHC	Public Health Committee
POW	Pregnancy Outreach Worker
SRB	Single Regeneration Budget
TB	Tuberculosis
TUPE	Transfer of Undertakings (Protection of Employment Conditions)
WHO	World Health Organisation
WMR	West Midlands Region

Chapter 1: Birmingham in the 19th Century

Introduction: 175 years of Public Health in Birmingham

Public health has long been a major concern within the biggest cities of the United Kingdom, from efforts to control the spread of infection in the slum dwellings of Victorian England to the mass vaccination of the population during the Covid-19 pandemic. We can trace the beginning of organised civic responsibilities for public health back to 1847, when Liverpool appointed the first Medical Officer of Health. In the subsequent 175 years, Birmingham like many other cities has put the health of its citizens at the forefront of its civic agenda, with a central role being played by its Medical Officers of Health and more recently its Directors of Public Health.

The public health issues that have bedevilled our cities during the past 175 years have been many and varied, depending on the health hazards confronting the populous at different periods of history. In the early years, the focus was on trying to achieve standards of sanitation that would stop the spread of diseases. Over the years, there have been waves of epidemics and high levels of infant mortality. In cities where the population live alongside major industries and where urban transport is a major headache, air pollution became a major health hazard and in more recent years, attention has turned to minority communities in the population that have demonstrable poorer health than other citizens.

Through the years, the health of city residents has gradually improved. This report charts the history of the public health work undertaken in Birmingham over this 175-year period. Its purpose is to celebrate the many achievements of the dedicated people who have worked tirelessly to protect and improve the health of the residents of Birmingham. Our hope is also that there will be lessons to learn from the challenges they faced and the solutions they found, that may guide us in future work as we deal with public health issues that have yet to emerge.

Many Medical Officers of Health or Directors of Public Health have held office and we have organised most of the chapters to reflect the work they and their staff undertook in their periods of office. The Medical Officers of Health or Directors of Public Health have a responsibility to record and report the state of public health in their cities each year and they and their teams play a significant role in responding to threats to public health. But they are but one of the many agencies that contribute to the improvement of living standards and, whilst many chapters focus on the public health team, the contributions of the wider array of agencies are also reported. For the majority of the 175 years public health was a responsibility of the local authority, but for a significant period it was the responsibility of the NHS. Therefore, one chapter is devoted to exploring public health in this period.

We have used many sources of information in compiling this report. However, one source of information has been invaluable. For many of the 175 years, the Medical Officer of Health or Director of Public Health produced an annual report. This was usually a detailed presentation of the health statistics of Birmingham in that year and also an account of the actions taken by the Public Health team and other agencies in Birmingham to improve the health of citizens. We have not given the specific reference every time we have referred to evidence in a particular annual report, but the Wellcome Collection have digitised all of the annual reports and they are available here.[1]

1. *https://wellcomecollection.org/works/g3ts9yve*

For the most recent years of this history, we have been fortunate to be able to interview past and current Directors of Public Health (and related titles) and their reflections are woven into the accounts of their years in office. We are very grateful for their help in the compiling of this report.

Birmingham in the 19th Century

We begin the story in the early years of the 19th century, before there was an organised approach to public health in our cities. Birmingham had been at the heart of the industrial revolution from its very beginning and throughout the 19th Century it was a rapidly growing centre for manufacturing. Many small businesses set up workshops and small factories in the city, manufacturing a very diverse array of products and attracting a rapidly growing workforce. It manufactured everything that could be made from iron and brass, from watch-chains, belt buckles and buttons to necklaces and snuffboxes, it had a thriving jewellery quarter and was already a centre for the manufacture of chocolate. It became known as The City of a Thousand Trades and The Workshop of the World.

The small workshops and factories made specialist products that needed a wide range of skills and the growing workforce included artisans and craftsmen of many kinds. The workshops were also places of innovation, finding ways of harnessing the emerging forms of technology, for example, steam power, to create valuable new products.

> *New technology brought new industries to the fore and many of these were factory-based. Entrepreneurs worked at the forefront of innovation and increased production dramatically by using manually operated machinery, and increasingly steam power: By the end of the 19th century there were some 2000 factory chimneys in the Birmingham area.*
> *Dargue 2012.*

Birmingham's Boundary in 19th Century

The rapid growth in industry led to a great demand for workers and the population grew from 73,670 in 1801 to 294,122 in 1851 and to an estimated 514,956 in 1899.

> *Much of the increase was due to immigration from surrounding counties but people came from as far afield as the north of England, Wales, East Anglia and London. The death rate in Birmingham, as in many big cities, was well above the national average, but the birth rate was higher still. A Jewish community had existed here certainly since 1751; by 1851 they made up 1% of the population and came largely from Germany, Poland and Russia. Before 1830 Irish immigrants were rare, but with famine in Ireland from 1845 Birmingham's Irish population grew to 4% by 1851 and continued to grow thereafter. By 1861 Birmingham had overtaken Manchester to become the 3rd largest city in Britain; by 1881 it had overtaken Liverpool to become the 2nd largest city, a position it has held ever since.*
> *Dargue 2012*[2]

2. Dargue W. (2012) A History of Birmingham Places and Placenames from A to Y. https://billdargue.jimdofree.com/glossary-brief-histories/a-brief-history-of-birmingham/victorian-birmingham/

The rapid growth in the population meant there was a great need to accommodate the new factory workers. They were housed in the centre of the city in the same area as the workshops and factories so that the workers were close to their workplaces. The more affluent former residents of the area moved to less populated wards further from the centre.

> *As central Birmingham became increasingly industrialised, living conditions for many people deteriorated. The large Georgian town houses were replaced by smaller middle-class houses which were later let or replaced again by housing for artisans or for the working class who needed to live near their work in the centre. Town gardens and courts were infilled with cramped cheap back-to-back housing for the very poor. Squalid slums stretched from the present site of New Street Station to Snow Hill and down into Digbeth and Deritend. Many dwellings were back-to-back, 2-up-2-down or even one-up-one-down, with shared outside toilets and washing facilities in a communal courtyard.*
> *Dargue 2012.*

Living Conditions in Birmingham during the 19th Century

The living conditions in the central area of Birmingham became increasingly wretched during the 19th century as the population grew and the centre became increasingly overcrowded. The residents were living very close to numerous factories belching smoke into the atmosphere and, in addition to the poor quality housing and air pollution, the residents had to contend with a lack of clean water and sewers to carry away effluent. In a series of articles in the Birmingham Daily Gazette at the end of the century called Scenes in Slum-land, J.C. Walters described the living conditions as follows.

The air is heavy with a sooty smoke and with acid vapours, and here it is that the poor live - and wither away and die. How do they live? Look at the houses, the alleys, the courts, the ill-lit, ill-paved, walled-in squares, with last night's rain still trickling down from the roofs and making pools in the ill-sluiced yards. Look at the begrimed windows, the broken glass, the apertures stopped with yellow paper or filthy rags; glance in at the rooms where large families eat and sleep every day and every night, amid rags and vermin, within dank and mildewed walls from which the blistered paper is drooping, or the bit of discoloration called 'paint' is peeling away. Here you can veritably taste the pestilential air, stagnant and mephitic, which finds no outlet in the prison-like houses of the courts; and yet here, where there is breathing space for so few, the many are herded together, and overcrowding is the rule, not the exception. The poor have nowhere else to go. Birmingham Daily Gazette 1901[3]

The death rate in the city was high in the 19th Century. The average death rate per 1000 from 1865 to 1873 was 24.8 with very little variation, year to year. However, these figures are comparable with the other large cities of England and Wales that were also experiencing the impact of the industrial revolution. In London, for example, in 1873 the death rate was 22.45 and in Liverpool it was 25.9. One reason why the death rate was high was the very high death rate of children under the age of one. In 1873 the death rate per 1000 births in Birmingham was 181.5. (In London it was 161 and in Liverpool 213).

Another reason for the high death rate was the impact of infectious diseases,

3 Birmingham Daily Gazette (1901) (ed) 'Scenes in slum-land: together with six articles on the remedies, and reports of libel actions and comments thereon'.

which spread very quickly in the overcrowded areas of cities that had very poor sanitation. In Liverpool and in other major cities, the major concern was epidemics of cholera that swept the nation in the 1830s and 1840s. It was this that caused Liverpool to appoint the first Medical Officer of Health in 1847, the first local authority effort to bring together the health records of the city and to seek ways of addressing the major public health issues the records revealed. The influential report to parliament of Edwin Chadwick[4] which followed his national investigation of the lives of the poor, led to the Public Health Act being passed in 1848. The Act created the General Board of Health and made it possible for local authorities to appoint medical officers of health to deal with the many public health issues besetting the cities of the UK.

Birmingham being an inland city had not been greatly affected by the cholera epidemics and it did not at that time in 1848 appoint a Medical Officer of Health. Instead, it relied on a team of inspectors, originally called Inspectors of Nuisance and later as Sanitary Inspectors. Inspectors of Nuisance were required to monitor cases of nuisance that created public health problems and to maintain a book of complaints for the health committee of the local authority to review. Brimblecombe (2003)[5] reports that often the appointed inspectors were just 'good, local men' with no qualifications or experience and that the level of pay was so poor that it was only in exceptional cases that the inspectors really made an impact in their locality. In the latter part of the 19th Century, and with a change of name to Sanitary Officers, efforts were made to create professional roles for the inspectors and to provide them with the training and qualifications they needed for the job. The team in Birmingham became more professional in their approach between the years of 1847 and 1873 but they were few in number and were having to deal with a rapidly growing population in a tightly confined and overcrowded part of the city. Their efforts had little impact on the death rate of the city or the spread of disease.

Early in the second half of the century, there was another addition to the ranks of people monitoring the health of people in large cities. The office of Public Analyst was established. The Adulteration of Food and Drink Act of 1860 established the office of Public Analyst and Birmingham, along with London and Dublin, was the first to appoint a medically qualified professional to this role. There were many problems in Victorian England with adulterated food and drink and with contaminated water and the responsibility of the Public Analyst was to ensure the safety and correct description of food and drink in their city. Dr. Alfred Hill was appointed as Public Analyst in 1866.

4 Chadwick E (1842) 'Report on the Sanitary Condition of the Labouring Population of Great Britain' House of commons sessional paper.
5 Brimblecombe P. Historical perspectives on health: The emergence of the Sanitary Inspector in Victorian Britain. Journal of the Royal Society for the Promotion of Health. 2003;123(2):124-131. doi:10.1177/146642400312300219

Chapter 2: 1872 -1903 Alfred Hill The First Medical Officer of Health

Birmingham 1872 to 1903

Birmingham during the late Victorian age was at the heart of the industrial revolution and was growing rapidly. The population was estimated to be 355,425 in 1873 and grew to an estimated 533,309 by 1903.

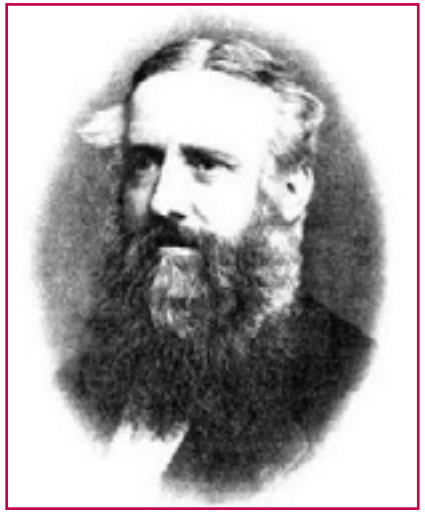
The city occupied an estimated 8,400 acres and most of the population lived in eight central wards. The wealthy members of the city lived in four much more sparsely populated wards in the suburbs. The density of the population per acre grew during this period from 42.4 in 1873 to 55.0 in 1890. There was a great deal of overcrowding with many families sharing the same house.

Most of the small factories and workshops occupied the same central wards that housed the majority of the population which meant that many people were directly affected by the environmental pollution produced by local industry.

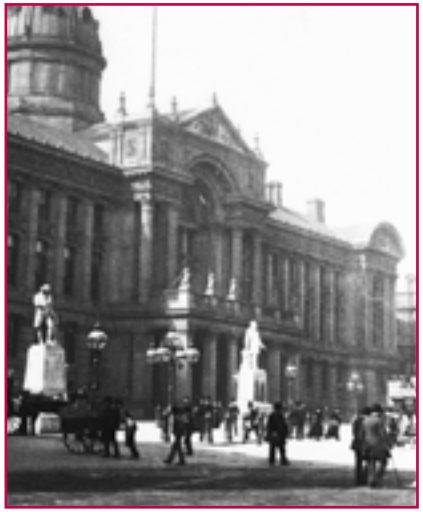
The First Medical Officer for Health

The Public Health and Local Government Act of 1872 required every local authority to create a health committee and to appoint a Medical Officer of Health. The Medical Officer of Health was legally responsible for collecting statistics on the health of the citizens in their locality and the hazards to health that existed in the city. They were to make regular reports of their findings to the health committee. Birmingham responded by appointing Dr. Alfred Hill, who was already the City's Public Analyst, as its first Medical Officer of Health in 1872, a post he held until his retirement in 1903. Dr. Hill also continued to be the Public Analyst.

Housing in Birmingham's Central Wards during the Late 19th Century



A Portrait of Dr. Alfred Hill



The Council House – Birmingham's Local Government Building

The Housing Conditions

The standard of the housing in the central wards was very poor and sanitation was so poor that Dr. Hill commented in his first annual report in 1874 that local living conditions did nothing to stop diseases spreading. Water, for example, was only available to most residents from wells that were often contaminated and, with few sewers available, the streets were often flowing with sewage. Average life expectancy in Birmingham in 1871 was 37 years compared with a national average of 41 years. A major contributor to life expectancy was a very high infant mortality rate: 30% of children died before the age of one. A major cause of death across the nation, and one of the reasons for the Public Health Act, was the succession of cholera epidemics in the 1830s and 1840s but Birmingham escaped lightly from these. Instead, it was other diseases that caused the high death rate in the city of 26.8 in 1,000 in 1873. (The death rate in Liverpool in the same year was 32.0).
In 1873 2,042 people died from the following diseases:

The Main Diseases Causing Deaths in 1873

Disease	Deaths
Diarrhoea	728
Scarlet Fever	587
Typhoid	203
Whooping Cough	169
Smallpox	125
Measles	123
Diphtheria	107

Dr. Hill had been the Public Health Analyst for Birmingham from 1866 to 1872 and he already had a good understanding of the public health challenges in the city.

He saw as his priority in his new role the improvement of the living conditions of the people living in the densely populated parts of the city so that the spread of diseases could be reduced. The problems the city faced were common to most urban settlements across the country. In 1875 the Government passed the Public Health Act that gave local authorities powers to improve many features of the living conditions of people, for example, to provide running water to residences and to build and maintain sewers. The powers provided by the Act were permissive rather than compulsory and it was up to each Local Authority to decide what to implement.

Dr. Hill embarked upon a wide-ranging, three-part strategy to use his powers as Medical Officer for Health to implement as many changes as possible to improve the living conditions of people in Birmingham. The three parts of the strategy were to:

- Inspect in order to assess and measure the health problems. He assessed and measured all the major public health hazards in the city and developed action plans to tackle them.

- Take direct action. For some of the health hazards he had the power and the resources to take direct action. He could, for example, fine factory owners for breaking pollution regulations, he could develop vaccination programmes and he was able to introduce health visitors for new mothers.

- Work with Council departments to make major changes. Many of the changes that were necessary required major programmes of work by other Council departments, for example, housing, water supply and drainage. He worked closely with the Health Committee to stimulate and advise these programmes.

Over the period 1873 to 1903 Dr. Hill's Public Health department grew from small beginnings to be a large team fulfilling a wide-ranging programme of work. The main elements of this programme are described below beginning with the actions his department undertook directly:

» Inspections In 1873 the Medical Officer of Health had a team of eight sanitary inspectors investigating the living conditions of the citizens of Birmingham. In his first annual report he commented that:

Nuisances and cases of disease that are reported and observed from day to day occupy their whole time and leave none for that systematic inspection of houses and premises that is indispensable to a general and thorough improvement of sanitation (p.20)

In the course of his first year in office he had appointed four more inspectors but still felt the team was insufficient to do more that attend to immediate requirements.

» At the time of his retirement the department had more than trebled. It had female health visitors, inspectors for not just sanitation but also food and drugs. It tested not only water supplies but also for bacterial elements in food and animals. Davis 2011 p.11[6]

Black Smoke

Many small factories operated in the areas of dense housing and there was particular concern about the emission of 'black smoke' from these factories which created 'dirty air' that affected the breathing of the population. The 'black smoke' was caused by the burning of fossil fuels, notably coal. The Medical Officer of Health had powers to fine (and even close) factories that produced excessive 'black smoke' and, in his annual report for 1903, Dr. Hill reported that a team of four smoke inspectors made 16,705 observations and issued 75 fines.

Vaccination Against Smallpox

The smallpox vaccine was available before Dr. Hill became Medical Officer of Health but it was not compulsory. Hill's staff mounted a major campaign to convince parents of the importance of the vaccine and the department achieved a consistent record of nearly 93% newborns being vaccinated for each year after 1876. He was also concerned that people who had contracted Smallpox or other infectious diseases, living in densely populated areas, would spread the diseases to other people. He concluded that the spread could be contained if people who had contracted an infectious disease could be cared for in isolation hospitals. He led a campaign over 10 years that first led to isolation wards in the Borough Hospital and in 1895 to the opening of a dedicated isolation hospital in Yardley Road. By the time of his retirement in 1903, the annual rate of deaths to Smallpox in Birmingham was close to zero.

The Introduction of Health Visitors

The high rate of infant mortality was a major concern and the approach adopted by Dr. Hill was to improve the living conditions of mother and baby. He started a campaign to create a team of Health Visitors that lead in 1899 to a team going out into the densely populated parts of the city to educate new mothers in 'cleanliness, thrift and temperance'.

They were expected to show mothers of children under four the best ways of clothing, and feeding their infants, to highlight cases of disease to medical men and as far as possible to highlight to residents the best ways to clean and feed themselves. Much of their work was centred with the care of infants. Their initial contact according to Hill in his 1899 report was good with the visitors making over eleven thousand visits and being well received.
Davis 2011 p.35.

Dr. Hill was proud of the impact that the health visitors made and in his 1900 annual report he recorded:

6 Davis J. V. ' In what ways did the Medical Officer for Health for Birmingham further public health developments between 1873 and 1927?' Open University Dissertation 2011

"The work done by Women Health Visitors has recently excited an extraordinary amount of interest in various parts of the country and last year I received numerous enquiries from Medical Officers of Health and others interested in sanitary matters as to the way in which our Visitors work and the success they meet with."

This development came late in Dr. Hill's period of office and the effects of this and other measures to give infants a good start in life were not seen for a further decade. Infant mortality stayed stubbornly at about 30% for children under the age of one, although with the population rising and conditions in the crowded areas of the city getting worse, maintaining the status quo was in many ways an achievement.

Working with Council Departments to make Big Changes

Many of the changes that were needed to improve living conditions required major programmes of work by the city authorities and, having identified what needed to be done, Dr. Hill took his recommendations to the Health Committee to enlist their support. Birmingham, unlike many large cities, was run by business people who believed in looking carefully at the business case for proposed changes and acting quickly on those that gave benefit to the city. There was a strong sense of civic responsibility in the people who governed the city and Dr. Hill's analysis and recommendations were accepted as issues that must be addressed.
For the first few years of his tenure Dr. Hill had a very action-oriented chairman of the committee, Joseph Chamberlain, who was the mayor of Birmingham from 1875 to 1878.

Chamberlain was a major social reformer, already committed to improving the city. In 1874 he persuaded the authorities to purchase the two gas companies that served the city and in 1875 he organised the purchase of the local water companies. He warmly welcomed Dr. Hill's recommendations for improving living standards and organised the funding to have many of them implemented. When Chamberlain stood down as chairman of the Health Committee, Alderman Arthur Cook, was also very supportive providing continuity of support through Dr. Hill's period of office. During this period progress was made in a great many schemes to improve the sanitary conditions in the densely populated parts of the city.

Clearing the slums in St. Marys and St. Martin's Wards

Two of the inner city wards, St. Marys and St. Martins, had high density housing and very poor sanitation. The Artisans' and Labourers' Dwellings Improvement Act 1875 gave local authorities the right to buy up and demolish slums and Chamberlain ensured Birmingham was the first to make use of the powers provided by the act. He raised the funds to have the slums in St. Marys and St. Martins demolished and the people rehoused in the suburbs. In their place a major new thoroughfare, Corporation Street, was created.

The Removal of Open Wells

Most people in the city got their drinking water from open public wells and Dr. Hill's inspectors regularly found that the water was contaminated and likely to cause the spread of disease. Dr. Hill worked with the water authorities throughout this period in office to close open drinking wells and replace them with drinking water delivered directly to people's homes or somewhere close by. In his annual reports Dr. Hill charts the steady closure of the wells. In 1881 he closed 370 and by the time he retired only a few thousand remained.

The Provision of Clean Water

In order to get a regular supply of water into people's homes a supply of clean water had to be identified and infrastructure created to deliver it in Birmingham. By 1885 it was apparent that the existing reservoirs could not provide sufficient water to meet the needs of the rapidly growing population of the city. Dr. Hill became part of a programme to identify other sources of high-quality water. An earlier effort in 1870 had been abandoned because the water company concerned was in private hands and the project was too costly. But by 1885 the water suppliers to Birmingham were owned by the local authority and this greatly facilitated to search for more supplies.

> *Hill was asked to join committee meetings to discuss the acquisition of other supplies. These were identified as most suitable in the Elan Valley in Mid Wales and Hill was despatched with Mr Rawlinson the town engineer to check out the resource and the quality of the water..... The two town officials went to Wales. Rawlinson to look at the depth of the task involved to transport water to Birmingham from Wales and Hill to assess the water. Hill reported back that he found the water most suitable and so a project plan was developed. The plan was audacious to say the least. However, Birmingham LA was never one to back down and by 1892 an act was put before Parliament to enable the construction of an aqueduct and a reservoir to hold the valuable resource from the Elan and Claerwen rivers. This reservoir meant the relocation of several families and again Hill was asked to overview the project to ensure their health wasn't affected. The whole project was completed in 1904. Thereafter, the MOH in post regularly checked not only water in local reservoirs and rivers but also those in the Elan Valley.*
> *Davis 2011 p.30.*

Building the aqueduct was a major engineering undertaking. It is 73 miles (117 km) long. The water travels underground and overground under gravity across many different terrains and takes one and half days to reach Birmingham.
Many bridges were needed to carry the water across valleys and over rivers including the River Severn.

The Replacement of Ash Pit Privies and Pan Privies

Washing and toilet facilities in the city were primitive. The most common facilities were ash pit privies and pan privies in the shared courtyards of the back-to-back houses They needed regular cleaning and manual clearing to dispose of the waste. Dr Hill concluded that these facilities were a major cause of diarrhoea one of the main killers in the city. He worked methodically with his sanitary inspectors and the public works department to reduce the numbers of ash pit privies and pan privies. The aim was to replace them with water-closet facilities either in people's homes or in public areas. The Council were gradually making the supply of clean running water available across the city and sewers were gradually being built, both prerequisites to the introduction of water closet toilets. Dr. Hill notes the steady extension of the sewer network in his reports: 130 miles in 1874 growing to 206 miles in 1890. He insisted in several of his reports that the health committee propose to the housing committee to install the self-flushing type of water closet in new builds that linked directly to a supply of water and the sewers.

The Improvement of Housing

Dr.Hill recognised that the poor quality of the housing in the densely populated wards of the city were a major contributor to poor health and the spread of diseases. Many streets consisted of terraces of poorly constructed back-to-back housing that allowed no ventilation into the properties. Sanitation was often poor because several houses shared communal access to washing facilities and to privies in shared courtyard spaces. Dr. Hill recommended many specific changes to the Health Committee about housing and in particular to new builds. The 1875 Public Health Act permitted local authorities to ban new back-to-back housing and, with help from Chamberlain and Councillor Cooks, he got a byelaw passed in 1876 that prevented the continued building of back-to-back housing in Birmingham. Birmingham was the first local authority to take his action and Dr. Hill regarded it as a major step forward. It was not until 1904 that the Public Health Act made building back-to-back housing illegal across the nation.

An Example of Back-to-Back Housing in the 19th Century

Dr. Hill recommended that all new builds had their own access to provide ventilation and that they had separate water supplies and sewage. Where new builds were constructed on this basis there was an immediate decline in the death rate: in St Marys where no new properties were built the death rate was 26.3 per thousand in1894 whereas in St Martins where there was a new build programme the death rate was 15.9 per thousand.

Paving Courtyards

The Birmingham Corporation Consolidation Act 1883 included a provision to pave much of the city's public spaces. Dr Hill had visited the Crystal Palace and from this visit he began a campaign to 'light Birmingham and make pavements and roads safe at night'. He also argued that the paving of the courtyards in the areas of back-to-back housing would provide a cleaner and more hygienic environment and reduce the level of disease and the Act enabled him to begin a programme that saw 347 courtyards paved in 1899 and a further 245 in 1900.

Improvements in Health Outcomes

The period of Dr Hill's tenure as Medical Director of Health from 1973 to 1903 was a period in which the health of the people of Birmingham improved significantly. Dr. Hill noted in his annual report of 1903 that the death rate in the city had declined from 24.8 per thousand in 1873 to 17.8 in 1903, with an average of 20.0 for the decade from 1892-1902. Life expectancy had increased from 37 years in 1873 to 42 years in 1903. Infant mortality had also shown an improvement: in 1903 it was 158 per thousand for children under one compared with 182 per thousand in 1873.

The following table provides the number of deaths from seven infectious diseases as presented in the annual report of 1903 which gives the figures for 1903 and the average for the previous 10 years. Compared with 1873 there was an overall decline in the number of deaths from these diseases. Smallpox is no longer the major threat that it was but the figures for diarrhoea remain stubbornly high.

Major Diseases Causing Deaths 1873 to 1903

Disease	1873	1893-1902 (average)	1903
Smallpox	125	26	12
Measles	123	222	195
Scarlet Fever	587	114	144
Diphtheria	125	141	135
Whooping Cough	169	254	93
Typhoid	203	110	66
Diarrhoea	728	645	588
Totals	2,042	1,512	1,233

The most common causes of death in under one-year olds in 1903 were as follows:

Common Causes of Death in Under One-year Olds in 1903

Cause	Deaths
Debility and Marasmus	531
Diarrhoea	462
Bronchitis, Pneumonia and Pleurisy	413
Premature Birth	365

The majority of the deaths due to diarrhoea in the whole population were under one-year olds (79%).

When Dr. Hill was appointed as the first Medical Officer of Health in Birmingham in 1873 the challenges to public health in the city were enormous. It was a rapidly growing city in which industry and its labour force were packed into a limited area with poor housing and very poor sanitation. Diseases of many kinds spread freely. Over the next 30 years Dr. Hill developed the role of Medical Officer of Health so that he was able to make progress in improving the living conditions of the people of Birmingham through a wide variety of ventures. Significant progress was made despite the fact that the population was growing at a fast rate through this period increasing the pressure on the limited space available in the city. At the end of his tenure the level of sanitation in the densely populated wards had improved and this was beginning to have an effect in checking the spread of diseases and reducing the annual death rate. Dr. Hill developed his role by (a) creating a team that could make regular inspections across many potential health hazards, (b) using the powers provided by legislation to take direct action where necessary and (c) working with other departments in the council to stimulate programmes to improve living conditions in the city. In the latter regard he was greatly assisted by the reforming nature of the council which sought out his advice in order to set in place the changes to public utilities and amenities that were necessary to achieve good levels of sanitation in every part of the city.

Chapter 3: 1903-1927 Sir John Robertson Tackling the Housing Problems in the Central Wards

Birmingham in the Early 20th Century

The period from 1903 to 1927 was a time of great turbulence and change for the country and for Birmingham, including the Great War of 1914-1918, the Spanish Flu epidemic of 1919, and mass unemployment in the 1920s. Despite this Birmingham continued to grow and prosper. New industries continued to flourish in Birmingham, and in addition to small and medium sized businesses some large enterprises were emerging. Chief amongst these was the rapidly growing car industry which began with small workshops and later created large factories and spawned an extensive supply chain of companies providing components.

The growth of the industrial base of the city led to a continuation of the growth in the population of the city. Between 1904 and 1927, the population increased from 533,039 to 969,752. The growth in population put even greater pressure on the already overcrowded central wards of the city, and gradually, more of the residents who were able to, moved out of the centre of the city to the suburbs that were developing beyond the city boundaries. They were able to commute up to five miles each way from their home to their workplace each day because of the growing network of electric trams that had been developed. The residents in the suburbs were the responsibility of a number of different local authorities, which meant there was no overseeing authority for 'Greater Birmingham'. In order to preserve the advantages of a unitary authority, the city expanded in 1908 from 12,705 to 13,477 acres, and in 1911 there was a further expansion to 43,537 acres. The city expanded from 16 wards to 30 wards.

The Second Medical Director of Health

The City Council had been very impressed to have a man of Dr. Hill's standing as their first Medical Officer of Health and, on his retirement, they embarked on an extensive nine-month search for his successor. In 1903 the Council invited Dr. John Robertson to succeed Dr. Alfred Hill as the Medical Officer for Health. Dr. Robertson had already been Medical Officer for Health in St. Helens and in Sheffield. In 1903, when he began his tenure as Medical Officer of Health, Dr. Robertson's appraisal of the public health issues of Birmingham were very much in tune with Dr. Hill's earlier analysis. Despite the progress made during Dr. Hill's period in office, there was still a high death rate, a high infant mortality rate and high levels of infectious diseases. Dr. Robertson's judgement, in line with his predecessor, was that the main reason for this level of ill health was the poor quality of the living conditions in the overcrowded inner wards of the city. There were two primary strands to Dr. Robertson's work with the Department of Public Health from 1903 to 1927. The first was to find ways to improve the living standards of the 'greater' Birmingham city and the second was to tackle the specific problems of the inner city wards.

A Portrait of Dr. John Robertson

The expansion of the city in population and acreage meant more public health officials were needed for inspections and assessments, During this period, there were also many new Acts of Parliament that related to public health and had to be enacted by the local authority. These included the Public Health Tuberculosis Act (1921), the Midwives Act (1902), the Smoke Abatement Act (1926) and the Public Health Act (1904). The new legislation had two impacts on the Department of Public Health. First, it greatly increased the number and variety of inspections to be made and second it gave considerably more power to the Medical Officer of Health to take action against health hazards. As a result, the Department grew considerably from around 300 staff in 1903, to over a thousand by 1927, and became a powerful force in the development of the city.

In the annual report for 1927, the public health officers of the city council are reported as:

Composition of the Department of Public Health 1927

Job Role	Number of Staff
MoH and Assistant MOHs	4
Maternity and Child Welfare Medical Offices (ft and pt)	26
Hospital and Sanitorium Medical Officers	16
Hospital and Sanitorium Nurses	273
Domestic Staff	215
City and City Assistant Bacteriologist	2
City Analyst and Assistant Analysts	4
Infant Welfare Visitors	77
Tuberculosis Visitors	11
General Health Visitors	19
Sanitary Inspectors	49
Clerks	66
Other Officers and Workmen	251
Total	1014

However, progress towards increasing the numbers in the Department was not smooth during this period. World War 1 created great turmoil across the nation from 1914 to 1918, with significant consequences for Birmingham and for the Department of Public Health.

Most of the factories in Birmingham converted to providing military equipment and munitions for the war effort, and it is estimated that 150,000 Birmingham men (50% of the male population of the city) enlisted. The 1914 Annual Report records that six medical officers and 50 inspectors from the Public Health Department had also enlisted, most of them fulfilling health related roles in the Army. The report notes that the numbers in the Department had been made up by recruiting people unfit for military service. However, they were untrained, and it was difficult to sustain the standard and range of services that were expected.

13,000 Birmingham men were killed in action during the war and there were 35,000 casualties, many of whom came back to Birmingham for treatment, placing a significant strain on the local hospitals. Dr. Robertson was very active in establishing the facilities for their treatment during the early post war years.

> *Between 1918 and 1927 Robertson highlighted the unhealthy state of troops returning from the war and the need to provide suitable accommodation where these troops could recuperate. He managed to get permission to use Highgate House in Moseley which had been donated by the Chamberlain family following Joseph Chamberlain's death in 1914. Robertson also opened a series of welfare centres in what he considered the wards in most need, in their first year over two and half thousand sessions took place providing help to the poor. Robertson also added additional hospitals to the city that were used to treat those requiring treatment for mental conditions, including extending the facilities in the mental hospital just outside of Northfield*
> *Davis 2011. p.75.*[7]

7 Davis J. V. ' In what ways did the Medical Officer for Health for Birmingham further public health developments between 1873 and 1927?' Open University Dissertation 2011

There was an economic boom immediately after the war as the many industries in Birmingham returned to commercial work. However, that was followed by a nationwide slump in trade which led to mass unemployment in Birmingham during the 1920s. This meant that many of the schemes that were planned to improve the city after the war were put on hold, due to a lack of money. Dr. Robertson did what he could to mitigate the effects of mass unemployment on the people of the city:

> *During the mid 1920s when the city was economically depressed and there was high unemployment, Robertson convinced the LA via the PHC to organise soup kitchens in the centre of the town. He also became involved in attempting to improve conditions for the poor by supporting the LA in the actions to stem unemployment across the city. Key to this was the reconstruction and renovation of many of the city's sewers and streets, along with road widening schemes and indeed new road builds such as the Wolverhampton Road which involved three LA coming together to build what at the time was one of the longest roads in the country. This provided work for the city's working class for around three to four years.*
> *Davis 2011 p.73*

Dr. Robertson was knighted for services to public health in 1925, and as Sir John Robertson, he worked to get the department back on track after the hiatus of the Great War.

The main themes to the work undertaken by Sir John and the Department of Public Health during the period of his tenure were as follows:

Public Utilities

Along with his predecessor, Sir John realised that he needed to improve the sanitary conditions of the city if he were to improve living conditions for the population, particularly the sanitary conditions of the inner wards of the city. Dr. Hill had begun with 106 miles of sewers and 143 miles of paved streets in the city. He passed on to Sir John 266 miles of paved streets and 315 miles of sewers.

> *Robertson felt that much more could be done and so he continued to close open wells and replace them with better in-house taps, linked to main drains. The works department under instructions from his sanitary inspectors cleaned on average 4000 drains and WCs a year. They cleaned several hundred houses and disinfected equal quantities of properties where infection existed. He increased the number of inspectors to one for every 30,000 of the population and also got more areas of the city paved, for instance in 1910 one hundred and four courtyards were paved. However, the scale of the problem was enormous because even as late as 1912 there were still 40,000 back-to-back houses left across the central part of the city. His inspectors were instructed to replace rather than clean pan privies where they could and this they continued to do.*
> *Davis 2011 p.59.*

During the 1880s, Dr. Hill had begun to create sewage farms in Saltley and Tyburn, and Sir John added more sewage farms and continued to improve the conditions of the farms. He recognised that burying people next to water courses could directly affect the health of the community, and asked for any new burials to take place outside the city limits.

In 1904, water finally began to flow along the viaduct bringing the clean water of the Elan Valley in Mid Wales to Birmingham and neighbouring towns. As the city continued to grow, the demand for water also grew and Sir John was instrumental in the opening of new reservoirs in Aston and Bartley Green, that could take the overflow from Elan Valley and have it available to meet the growing demand.

Housing

Sir John recognised very early in his tenure that, no matter what improvements were made to public utilities, there would still be major health problems in Birmingham, because much of the housing, particularly in the central wards, was poor quality and overcrowded. It was an environment in which diseases very quickly spread. After 1911, when the city had expanded to 30 wards, the annual reports regularly reported statistics that compared the central wards with the new outer wards and the older, more affluent, 'middle wards'.

Through these comparisons, Sir John was able to show the extent of the public health issues in the central wards. In the annual report of 1914, the following figures were reported for the period 1912-1914.

Death Rates in the Central, Middle and Outer Wards in 1914

Area	Death Rate (per 1,000)	Infant Mortality Rate (Under 1-year olds per 1,000)
Central Wards	20.8	130 – 210
Middle Wards	13.4	85 – 130
Outer Wards	10.3	60 – 85
All Birmingham (1914)	14.8	122
England and Wales (1914)	14.0	105

The death rate in the central wards was double that in the outer wards (where there was significant new building to a higher standard). The infant mortality rates are given as the range in the wards in the central, middle and outer areas of the city, and again the rate in the central ward was double that in the outer wards. In each case, the death rate and the infant mortality rate in the inner wards was significantly higher than the average for England and Wales.

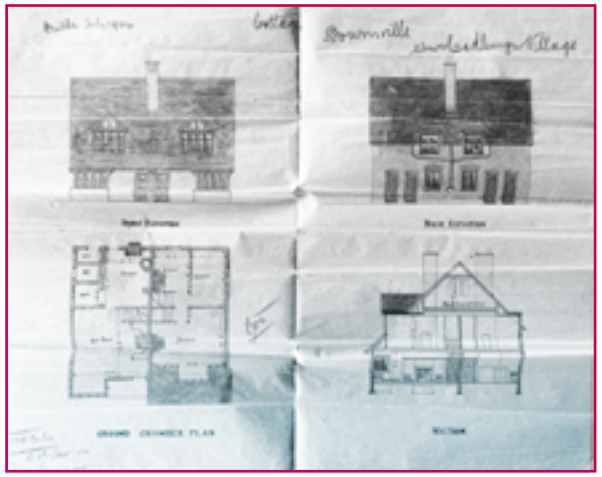
Sir John campaigned ceaselessly to have the back-to-back housing in the central wards demolished, which he regarded as the major health hazard, and to have the residents rehoused in the outer wards. Unfortunately, the money was not available in the city during this period to undertake the work, especially with the onset of war. Although new housing was built in the outer wards during this time (both public and privately financed), it was rarely enough to keep pace with the growth of the population and could not incorporate mass relocation from the central wards.

Sir John also published his recommendations for the building of housing that would be sanitary and pleasant places to live.

> *In his book Housing and the Public Health Robertson requested that drains be away from new properties and sealed correctly to ensure no infections could be passed on. He requested property have two rooms on the lower level and always be linked directly to mains sewer but that each water outlet be separate to not contaminate food. After discussions with other MOH across England and Scotland, Robertson added that each property should have a garden to the front and rear, for space to grow food and provide recreation.*
> *Davis 2011 p.61.*

There is no evidence that these recommendations were formally adopted for the new housing in the outer wards, but the houses incorporated many of the features Sir John recommended.

In addition to the new housing being developed in the extended city, many of the businesses that prospered in the inner wards also took the opportunity to expand by developing larger premises in the outer wards. One significant company that took this step was Cadbury, who built a new factory for the manufacture of chocolates in Bournville. The Cadbury family were quakers and they were particularly concerned with the health and living standards of their employees. In addition to the factory, they created a model housing village in Bournville for their employees. The houses were built to a high standard, including all the



Cadbury's Model Village in Bournville

provisions Sir John Robertson recommended, and each house had a large garden for the growing of vegetables. Over time, the village grew to incorporate large green spaces and recreational facilities, so that the residents had all the facilities and amenities necessary to enable them to enjoy a healthy lifestyle. The model village in Bournville became an inspirational target, not only for new housing developments in Birmingham, but across the nation.

Infant Mortality and the Role of Midwives

The high rate of infant mortality, especially in the central wards, remained a major concern through this period and Sir John tackled this problem in a number of ways. He followed the policy of his predecessor, Dr. Hill, in deploying a team of health visitors to educate new mothers in the care and cleanliness of their babies and he extended the facilities available to new mothers.

> *Robertson set up health centres that specially provided nourishment and education to pregnant women / new infants and new moms. These centres where run in part by charities and health visitors who provided in an average year around 15,000 warm meals for those that came at a cost of between 1d to 2d per meal, the first one opening in 1915 in the Carnegie Centre on Broad Street. They educated the women in cooking, cleansing, sewing and good husbandry. Additionally, from 1916 they employed on a part time basis women doctors to check the health of mother and child and report back if a health visit was needed to help.*
> *Davis 2011 p.54.*

The Birmingham Corporation Act of 1906 gave Sir. John the power to make regular tests of milk and to close dairies that were selling contaminated milk. Most of the babies born to mothers in the more deprived wards were bottle fed and the inspectors found many examples of contaminated milk. Action was taken that improved the quality of the milk the babies received.

One of the reasons for infant death, particularly in the central wards, was suffocation caused by 'overlay' (i.e. the baby being in bed with the mother and the mother inadvertently smothering the child). In the overcrowded slums, babies had no separate cot and sleeping with the mother was a regular occurrence. Through his health visitors, Sir John sought to increase awareness of the dangers of this practice and over time, the figures for death by suffocation decreased from 92 per year in 1900 to 26 per year in 1920.

Although these measures led to a significant improvement in infant mortality, it remained stubbornly high and there was criticism that the public health measures being taken were too costly for the limited results being achieved. In his annual report of 1920, Sir John mounted a strong defence of the policies, arguing that over the period from 1873 to 1920, there had been a decline in infant mortality from 182 deaths per thousand of under one-year olds in 1873 to 83 per thousand in 1920 (the equivalent of saving 3,000 lives each year). He reported that in the last 20 years, infant mortality had been reduced by 50%, and that the most recent figure was very similar to the average for England and Wales (80 per thousand). In a comparison with the eight largest towns in the UK (excluding London), Birmingham was second only to Bristol in having the lowest infant mortality rate. Sir John attributed the improvement largely to the educational programme delivered by Health Visitors that had grown from 17,832 visits in 1900 to 52,925 in 1920. 85% of new mothers received a visit from the Health Visitors team in 1920. As he reported, educational programmes take time to have an influence, but they were now seeing positive outcomes.

However, there was one feature of the analysis of the Infant Mortality figures that gave the Public Health team more reason for concern. In the 1920 Annual Report, Sir John also reported that, of the 2,072 babies that died, 861 (39%) died within the first four weeks, whilst an average of 75 died each month thereafter. They died of 'prematurity, congenital defects and general weakness at birth'. Although the figures for infant mortality had improved over the years, the gain had been in infants after their first month of life.

The figures for the birth period and immediately afterwards had remained high at about 40% of the annual deaths. Sir John and his team identified as a major cause of concern the care being given to the expectant mother in the final period of pregnancy and during the birth process.

Responsibility for the care of expectant mothers during this period was in the hands of a team of midwives, most of whom had no medical training. Dr. Hill had recruited Birmingham's first medically trained midwife in 1899 and three years later, the Midwives Act of 1902 (which came into force in 1904) recognised midwifery as a profession and proposed that practising midwives should have medical training. Sir John took action to remove midwives with poor records from the registered list and he started a course at the University of Birmingham for nurses to train as midwives, that over time became very popular and attracted recruits from all over the country.

A revision of the Midwives Act in 1926 made it compulsory for midwives to have medical training. At that time, the Annual Report records that, of the 244 midwives practicing in Birmingham, 189 were medically trained and 55 were not. The report also records that in the period 1921-25, the percentage of annual deaths occurring in the first four weeks had fallen to 33.5%. As Sir John notes, this was a reduction, but not yet on the scale that was needed.

Black Smoke

The emission of black smoke from local factories continued to be a major problem throughout Sir John's tenure, producing what he called a 'sooty atmosphere' in the living areas of residents. He initially had a team of four smoke inspectors undertaking factory inspections, noting black smoke emissions of over an hour in duration and bringing prosecutions and fines to regular offenders.

To address this problem, he proposed in his 1918 annual report that in future town planning any central area of Birmingham should be divided into separate zones, an industrial zone, a business zone and a residential zone. This created measures that could protect residents from the harmful effects of emissions from industrial premises.

He regretted that the team was reduced to two smoke inspectors during and after the war, because the problem of black smoke was even greater. In his 1921 annual report, he noted that the coal strike had led to many factories burning an inferior form of fuel, that meant the atmosphere was not only sooty, but also contained grit. Grit catchers had been deployed to control this dangerous development, but they were only partially successful.

In the annual report of 1926, the heading 'black smoke' was replaced with 'atmospheric pollution', signalling that the problem of air pollution was wider than black smoke from chimneys. The section included a report from the smoke inspectors, detailing that prosecutions continued at a rate of between 39 and 88 per annum from 1923 to 1926. However, it also included a report from the City Analyst on the impurities being found in rainwater

The Smoke Abatement Act (1926) became law in 1927 and permitted fines to be increased from £5 to £50. Sir John asserted his intention to implement the provisions of the Act as quickly as possible.

The Treatment of Tuberculosis

In 1926 deaths as a result of infectious diseases in Birmingham were as follows:

Main Diseases Leading to Death 1916-1926

Disease	Deaths in 1926	Average 1916-25
Enteric Fever	3	5
Smallpox	0	0
Measles	78	145
Scarlet Fever	8	36
Whooping Cough	128	193
Diphtheria	116	126
Pulmonary Tuberculosis	905	982
Other forms of Tuberculosis	119	171
Influenza	260	548

The improvement in living conditions had eradicated both typhoid (that killed 66 people in 1903) and smallpox (that killed 12 in 1903). In the 1920s, the major killer was now tuberculosis. In 1903 it killed 32,00 people across England and about 10% of all deaths in Birmingham were due to the disease.

The disease spread very quickly, when people were in close proximity and in unsanitary conditions. Sir John urged the council to ban spitting in public places believing it to be one of the ways the disease spread. He also adopted a strategy to manage the disease that was quite different to that being adopted elsewhere. He believed that it was imperative to isolate people that were suspected of having the disease as quickly as possible to avoid it spreading, and he set up places where they could be isolated. He was aware that a programme of fresh air, good meals and rest, was the best way of helping people survive the disease and in the places of isolation, he established procedures to provide that form of treatment.

In 1916 he opened a clinic on Broad Street in Birmingham specifically to deal with those patients with suspected tuberculosis, and with the opening; the following process was applied to all patients:

a) Health visitors identified tuberculosis suspected sufferer.

b) Suspected patient sent to Broad Street Clinic for testing and notification was sent to the MOH if confirmed.

c) Identified patients either treated with medicine and advised to return on a regular basis or sent to sanatoria at Salterley Grange, West Heath Hospital and Yardley Road Hospital. From 1921, additional sanatoria were opened.

d) Patients were kept in sanatoria until considered by doctors fit to return home and work.

e) Required to return to clinic on Broad Street on regular occasions to confirm no return of tuberculosis. Davis 2011 p.68

In the sanatoria, the main treatment was to provide as much exposure to fresh air as possible. Patients who were fit enough to return home were expected to attend the clinic regularly because it was known that tuberculosis could return many years later. Sir John also recognised that children could catch tuberculosis from contaminated milk. Therefore, any cows that tested positive for the bovine form of tuberculosis were immediately destroyed.

These measures gradually began to have an impact on the death rate from tuberculosis. In an extensive analysis of the incidence of the diseases in the 1926 annual report, Sir John concludes that the death rate from pulmonary tuberculosis (the most common form) had seen a decline from 1.34 per thousand deaths (1901-

1905), to 0.95 per thousand deaths (1922-1926), a reduction of 29%. He attributed this in part to people being much more aware of how to keep themselves safe from the infection in the way they lived and to the rapid isolation and care given to people with the disease in the sanatoria. He reported that the death rate in cases per million from tuberculosis in Birmingham (953) was comparable to that in London (948) and better than other major cities, such as Manchester (1330), Liverpool (1210) and Leeds (1068).

The Spanish Flu Epidemic

A Ward in the General Hospital during the 19th/ 20th Century

In 1918, just as the country was emerging from the Great War, there was a major epidemic of Spanish flu. In Birmingham Sir John reported in his annual report for the year that there had been three waves of the epidemic and that it had killed, directly or indirectly, 2,500 people. It had caused an increase in the death rate for that year to 15.2 per 1,000. Sir John reported that it had put a great strain on local hospitals and nursing staff in particular. He was concerned that very little was known about the disease, how it could be treated and how it spread. He went on to say:

> *The outstanding feature to my mind is that this country should sustain a loss in one year far greater in extent than in any year of the Great War, without setting up the most searching inquiry into the nature of the infection and the best methods for its prevention.*

Outcomes for Public Health

Like his predecessor, Sir John Robertson could report at the end of his tenure that the public health of the citizens of Birmingham had significantly improved. In the annual report of 1923, he was able to report that the health statistics of the city were 'the best ever recorded'. From 1903 to 1925, the death rate in the city declined from 15.8 to 11.7 per 1,000, and life expectancy improved from 42 (in 1903) to 59 (in 1927). The death rate in 1927 was the lowest of nine major cities in the UK (excluding London). Infant mortality declined from 147 per thousand (in 1903) to 75 (in 1927). These improvements were achieved, although the population grew from 533,039 (in 1903) to 969,752 (in 1927), and despite the city enduring the rigours of the First World War, the Spanish Flu epidemic and the mass unemployment of the 1920s.

Undoubtedly a major factor in this improvement was the extension of the city to 30 wards and the better housing and facilities provided in the middle and outer wards of the city. However, although much of the substandard housing in the central wards remained, the many improvements to facilities in the centre of the city also meant that the health statistics of residents there had also improved. These improvements were the result of many actions by different agencies in the city. However, it is possible to identify many specific ways in which Sir John and his staff made important contributions. Inspections and assessments were now being made across a wide variety of domains for health hazards, from air pollution and infectious disease reporting to food and milk analysis. And Sir John was able to take action where necessary to remove the health hazards identified. The work of health visitors, the professional training of midwives and the extensive health education programme also served to improve the living standards of residents. When serious health issues did threaten the health of the city, as in the number of people infected with tuberculosis and the injuries suffered by returning soldiers, he was able to create caring regimes that reduced the death toll and returned more people to normal life.

Sir John was greatly assisted in this work by the passage of many acts of parliament that gave him powers to inspect and to act where health issues were found. In his annual report of 1921, Sir John lists all the acts in force at the time which had a bearing on the delivery of public health, including 27 general acts and many local acts, bye laws and regulations. Sir John, with the support of his staff and local councillors, played an active part in the framing of many local bye laws and regulations, for example, the banning of spitting in public places. It is probably also the case that he was not just a passive recipient of the general acts being passed by parliament. In many instances Sir John was already working to implement new health practices before an act was passed, that gave him more powers to move the change forward. He was, for example, working to give all midwives medical training before the Midwives Act of 1926 made it compulsory. Both he and Dr. Hill were active at a national level promoting public health and it is likely that in many instances they were lobbying for the acts that subsequently emerged. They were both presidents of the Society of Medical Officers of Health and had close links to public health officials in government. There were also other avenues of influence, via the connections of local MPs and local government officials.

In Sir John's tenure, the role of Medical Officer of Health became substantially more powerful and his team became larger and more varied in their expertise. As a result, there were many important contributions made to the health of the city. However, Sir John, could not achieve everything he regarded as important because in 1925, 30,000 residents were still occupying the back-to-back housing in the central wards.

Chapter 4: 1928-1949 Peter (H.P.) Newsholme Public Health Before & After World War II

Dr. Newsholme succeeded Sir. John Robertson as Medical Officer of Health in January 1928 and retired in 1949 after the second world war and the introduction of NHS. His tenure involved two distinctly different periods for public health in Birmingham, 1928 to 1939 when the war began and 1939-1949, war time Birmingham and the post-war period.

Dr. Peter Newsholme

The Pre-War Period 1928-1939

Although unemployment was very high in this period the population of Birmingham continued to grow but at a slower rate than in the previous decade. It was 969,752 in 1927 and it grew to 1,055,000 in 1939 ,(there were small discrepancies between the population figures used in the Department of Public Health and those provided by the Registrar General whose estimate for 1927 was 951,100 and for 1939 1,041,000).

The death rate was low relative to other cities and showed little change over the decade. It was 10.9 in both 1928 and 1938. London in 1928 was 15.9 and 11.6 in 1938, and Liverpool was 21.9 in 1928 and 12.3 in 1938. There remained a difference in death rates between the wards in Birmingham: in 1938 the death rate in the central wards was 13.3 compared with 11.8 for the middle wards and 9.3 for the outer wards. The one exception to the steady state of the death rate was 1929 when in the Spring a flu epidemic swept through the nation. The annual report for 1929 records that 915 deaths in the Spring, a quarter of the total, were registered as due to flu, putting the annual death rate up to 13.5.

Infant mortality was also low and displayed a steady decline. The death rate for children under 1 year in age was 65 per thousand in 1928 and 61 in 1938. It increased to 79 in 1929 when the influenza pandemic hit all age groups in the City. The death rate was comparable to the rate for England and Wales: 53 per 1,000 in 1928, 65 in 1938 and 74 in flu pandemic year of 1929.

The pre-war period was a period of great change in the Public Health Department. As a result of the Local Government Act 1929/1930, staff of the department were suddenly more than doubled. This was the result of the transfer of the staff of the City's hospitals, an infirmary and some convalescent homes from their Board of Guardians to the City health committee and to the responsibility of Dr. Newsholme.

The extent of the department as described in the annual report of 1930 is summarised in the following table.

Composition of the Department of Public Health in 1930

Name of Department	No. of staff
Public Health Officers	31
Sanitary Department	80
Maternity and Child Welfare Department	329
Tuberculosis Department	307
Works Department	42
Bacteriological Department	15
Analytical Department	7
Public Vaccination	23
Infectious Diseases Hospital	278
General Hospitals and Convalescent Homes	1,150
Total	2,262

A Ward in the General Hospital during the 19th/ 20th Century

In addition to the increases that resulted from taking responsibility for Birmingham hospitals, Dr. Newsholme also noted that the adoption of new Acts of Parliament and Bye Laws required an increase in inspectors and other members of staff. The Housing Act 1930 gave new powers to deal with dilapidated property and the Maternity Homes Act 1927 and the Smoke Abatement Act 1926 both required action by public health staff. In addition, Bye Laws passed by the council gave new powers that required action, for example, in relation to the poor quality of many houses let for lodging. In the 1928 Annual Report Dr. Newsholme noted a tendency to recruit new staff to specialist teams to deal with new requirements and that this could lead to duplication of effort, for example, two teams of inspectors visiting the same premises. He reports that there were eight teams of inspectors with special duties including Common Lodging Houses, Workshops and Milk Shops. He was in the process of absorbing many of these special duties into the work of the general inspectors.

With a large team working on many fronts, the annual reports of this period cover many different programmes of work to improve the health of Birmingham residents. In his introductions to the reports Dr. Newsholme drew attention to the following contributions in particular:

Dealing with dilapidated property

The Housing Act 1930 gave local authorities new powers to demolish property assessed as unfit for human occupation and provided subsidies to support the rehousing of displaced families. This gave Dr. Newsholme and his team the opportunity to begin clearing some of the substandard properties in the central wards. The 1931 Annual Report identifies two areas, Glover Street in St. Batholomew's Ward and the Skinner Lane area in St. Martin's Ward, where 153 houses were assessed by inspectors as ready for clearance, displacing 169 families. The properties included 132 back-to-back houses. In addition, the inspectors assessed 21,266 other properties and found defects that needed correction. In 6,930 cases corrections were made either by the owners or the local authority.

The process of identifying dilapidated property and earmarking areas for clearance continued through the 1930s. In the 1938 annual report it is noted that a further 61 areas have been identified for demolition bringing the grand total to 264.

The rate at which demolition could actually occur was limited by the need to rehouse displaced families and there were several years when the Council suspended the process because new house building was not keeping pace with the need. In 1936 a new Housing Act came into force that gave local authorities even more powers, in particular to designate whole areas for redevelopment. Up to this point slum clearance had focused on small areas of back-to-back housing in central wards but the new powers enabled a large area of 275 acres containing 6,877 dwelling in Duddeston and Nechells to be designated for redevelopment.

Considerable progress with slum clearance was achieved in the 1930s but there was still much more to do when it came to an abrupt halt in 1939 after war broke out. In the 1939 Annual Report Dr. Newsholme reports that all of the staff associated with slum clearance had been moved on to Air Raid Precaution (ARP) duties. The process did not resume until after the war ended.

Maternity and Child Welfare

In the 1949 annual report, the last before his retirement, Dr. Newsholme reviewed the achievements of his period of tenure and he declared that:

> *The maternity and child welfare services of the City .. have developed into what can without any doubt be claimed as the premier maternity and child welfare service in the country under the strong leadership and the vigorous drive in succession of two women of outstanding calibre – the city owes much to Dr. Ethel Cassie and Dr. Jean Mackintosh – and to the wholehearted support they have received from a large staff of health visitors, together with the staff of the City maternity homes, the City midwifery services, and of the day nurseries and residential nurseries in close cooperation with the maternity departments of the City institutions. The result has been a well-knit service for the expectant mother, for the woman in labour, for the nursing mother and the young child, for the unmarried mother, for child adoption, for the supervision of foster-mothers and foster-children, and for the provision of home helps, the whole forming a satisfying and comprehensive entity linked with the medical practitioners of the City.*
> *(Annual Report, 1949)*

Earlier, in 1930, he noted that there was clear evidence of the success of the work of the maternity and child welfare services in the infant mortality figures which decreased throughout the period. In the period 1901-05 infant mortality in Birmingham was 157 per thousand births (138 in England and Wales) and in 1929 it was down to 70 (74 in England and Wales).

In 1929 there were 98 health visitors (tuberculosis and infant welfare) who made 3,284 visits to mothers and expectant mothers and made 3,948 visits to clinics. In 1928 the training course that had been initiated for health visitors was established on a more permanent basis.

As a result of Midwives Act in 1936 all unqualified midwives were prohibited from practicing and training courses for nurses were established in the maternity hospitals in Birmingham that led to them obtaining the Central Midwives Board Certificate. The process of establishing a completely professional service led to a temporary shortage of midwives as many left the service before others could be trained.

In 1936 there was concern about a small increase in maternal deaths during birth and the service instituted a 'flying squad': a surgeon, nurse and necessary equipment that could attend a birth very quickly and give medical aid. Dr. Newsholme reports that by 1939 this service had saved quite a number of lives.

An Example of A Child Welfare Magazine

The emphasis in child welfare was on both the education of the mother and the availability of regular medical assessments of children. By 1929 there were 28 Child Welfare Centres across the city.

The Centres offered a total of 350 classes teaching mothercraft, cookery, sewing and healthcare. The Centres also instituted regular medical assessments of children and when there was early warning of medical complications referred mother and child on to the local hospital. In 1927 a system of district nursing was also introduced, with nurses in 13 districts able to visit mothers and children in their own homes to provide medical care, particularly in cases of infectious diseases such as measles and whooping cough.

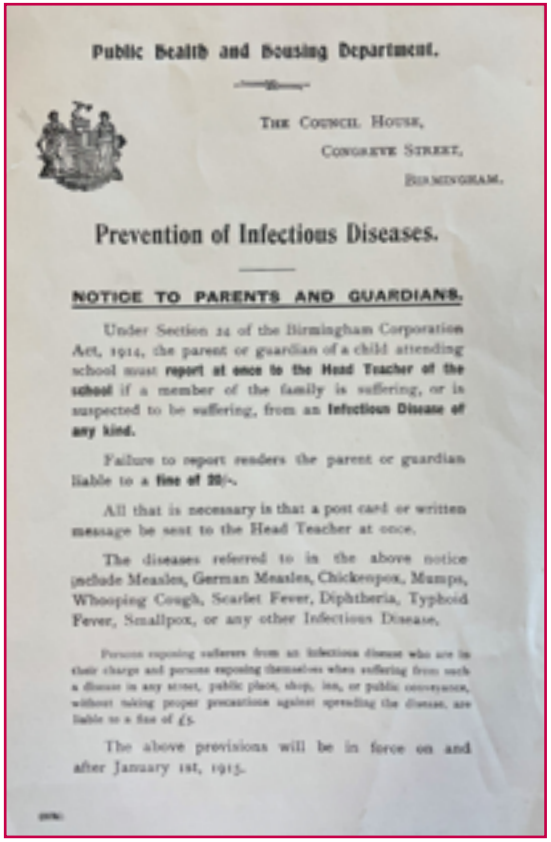
Infectious Diseases and Vaccinations

Dr. Newsholme noted in his 1938 annual report that Birmingham had been relatively free of major epidemics in the previous decade (with the exception of the influenza epidemic in 1929) and in nearly all cases there had been a decline in the number of deaths reported.

Main Diseases Leading to Deaths 1928-1938

Disease	Average Number of Deaths (1928 - 37)	Deaths in 1938
Pulmonary Tuberculosis	825	732
Influenza	331	162
Tuberculosis (Other Forms)	107	82
Whooping Cough	97	75
Measles	79	10
Diphtheria	68	69
Scarlet Fever	12	7
Enteric Fever	3	0
Smallpox	0	0

Pulmonary tuberculosis remained the major cause of concern with all the measures established by Sir John Robertson still in place, for example, the isolation of patients in sanatoria. A new form of treatment was also introduced with some degree of success. This was the introduction of light clinics in which the patient was exposed to bright light which had been shown to improve the body's defences against the infection. Nevertheless, the death rates for pulmonary and other forms of tuberculosis remained high.



Public Health and Housing Department.

The Council House,
Corporation Street,
Birmingham.

Prevention of Infectious Diseases.

NOTICE TO PARENTS AND GUARDIANS.

Under Section 24 of the Birmingham Corporation Act, 1914, the parent or guardian of a child attending school must **report at once to the Head Teacher of the school** if a member of the family is suffering, or is suspected to be suffering, from an **infectious Disease of any kind.**

Failure to report renders the parent or guardian liable to a **fine of 20/-.**

All that is necessary is that a post card or written message be sent to the Head Teacher at once.

The diseases referred to in the above notice include Measles, German Measles, Chickenpox, Mumps, Whooping Cough, Scarlet Fever, Diphtheria, Typhoid Fever, Smallpox, or any other Infectious Disease.

Persons exposing sufferers from an infectious disease who are in their charge and persons exposing themselves when suffering from such a disease in any street, public place, shop, inn, or public conveyance, without taking proper precautions against spreading the disease, are liable to a fine of £5.

The above provisions will be in force on and after January 1st, 1915.

An Example of a Prevention of Infectious Diseases Notice for Parents and Guardians

Cases of diphtheria in this period were high, killing an average of 68 people a year between 1928 and 1937. A vaccine was available and an intensive campaign was undertaken to immunize the children of Birmingham. In his 1949 annual report saluted this pioneering programme that began in 1927 and immunized between 20,000 and 25,000 children per year until, by 1949, 70% of children had been immunized. He was able to report that the one death to diphtheria in 1949 was a middle-aged woman who had never been immunized and that in the previous three years no child had died of the disease.

Smoke Abatement

Air pollution remained a serious health hazard in the 1930s and 1940s with the central wards of the City 'robbed of sunlight' by the dirty atmosphere created by the smoke emitted from an increasing number of factories. The Smoke Abatement Act of 1926 gave local inspectors more power to fine owners who regularly produced excessive emissions and, over the years, inspectors identified between 80 and 170 cases of excessive emissions each year and acted accordingly. This did not however lead to an improvement in air quality and Dr. Newsholme notes in his final annual report in 1949 that a different policy had more impact on factory owners. The main source of the problem was hand-fired vertical boilers where the stoker often had difficulty sustaining the steam pressure required without creating a lot of black smoke, especially when poor quality fuel was in use. The inspectors instigated an educational programme to either get boilers replaced or to teach stokers how to achieve more efficient combustion and less smoke emissions. Dr. Newsholme reports that these measures were having a significant impact on local factories but that the air pollution was getting worse because of an increase in domestic coal burning smoke emissions. Domestic emissions were not covered by the smoke abatement act.

Public Health During the War Years 1939-1945

As one of the country's most important manufacturing centres, Birmingham rapidly converted to a centre for the manufacture of military equipment and munitions. Most of its factories converted to supporting the war effort. The car companies built Spitfires, Hurricanes and Lancasters and military vehicles and the Birmingham Small Arms Factory made all the sten guns used in war.

As a centre for military production Birmingham became a major target of German bombing raids. Around 1,852 tons of bombs were dropped on Birmingham, making it the third most heavily bombed city in the United Kingdom in the second world war behind London and Liverpool[8]. There were 365 air raid alerts, and 77 actual air raids on Birmingham, eight of which were classified as major (in which at least 100 tons of bombs were dropped). Official figures state that 5,129 high explosive bombs and 48 parachute mines landed on the city, along with many thousands of incendiary bombs. In total, 2,241 people were killed, and 3,010 seriously injured. 12,391 houses, 302 factories and 239 other buildings were destroyed, with many more damaged, including the Council House.

In the period leading up to the war and during the war, the work of the Public Health Department changed dramatically. Unlike the first world war where the main implications had been the loss of staff to the war effort and the conversion of hospitals to treat the war wounded, Public Health staff now found themselves dealing with all the health issues of a city under attack from the air. In his annual report of 1939, Dr. Newsholme detailed the work that the staff of the Department were quickly converted to undertaking.

> *During the earlier half of 1939, the process of preparing, opening and staffing first aid posts, of organising first aid parties and ambulance services, of establishing a machinery for the training of volunteers for the newly-formed Civil Nursing Reserve, of arranging the casualty sections of the general hospitals and of adjusting their staffs to the new calls on them and of supplying, storing and distributing equipment… went on steadily and with growing concentration. The recruiting of fresh personnel for the various air raids precautions services and the preliminary training in first aid and anti-gas measures were carried out by the Air Raids Precaution Officer and his staff in close collaboration with the Public Health Department.*
>
> *With the outbreak of war all of these activities were almost violently intensified with the immediate action of safeguarding buildings used by the casualty services, of establishing 'black out' arrangement, and of the issue at very short notice of the stores reserved for that specific purpose, imposed a considerable strain for the moment on the Department.*
>
> *At the same time a large-scale clearance of hospital beds, in part to the patient's own home and in part to hospitals away from Birmingham, was put into effect rapidly and with success; while the Public Health Department took its minor but nevertheless important share, in connection with mothers and young children, in the evacuation scheme organised by the Chief Education Officer and his department.*
> *(Annual Report 1939)*

8 Ray, John (1996). The Night Blitz. Cassel & Co. ISBN 0-304-35676-X

Although the staff numbers in the Public Health Department were significantly depleted by the war preparations, efforts were made to continue most of the public health functions, now regarded as essential to the health of the population. The slum clearance programme was abandoned and the staff took up roles in Air Raid Precautions (ARP). Some of the health visitors accompanied mothers and children to reception centres as they were evacuated from the city but most returned later in the year when the mothers and children were settled in their new accommodation. Dr. Newsholme recorded his appreciation in the 1939 annual report of the extra effort made by staff to continue with all the regular duties of the Department, especially in regard to Maternal and Child Welfare.

As the war progressed the depleted staff of the Public Health Department had to deal with many new challenges:

Air raid damage to housing

Aids raids damaged a great many areas of domestic housing in the City with the result that even more families were living in overcrowded and unsanitary accommodation. There was a spread of infectious diseases notably diphtheria and scabies. The unsanitary conditions, and perhaps also the use of overcrowded and damp air-raid shelters at the beginning of the war, meant there was also an increase of tuberculosis, bronchitis, pneumonia, and other respiratory diseases. Deaths to respiratory diseases increased from 1.16 per thousand in 1939 to 2.21 in 1940 and 1.94 in 1941.

Shortages of hospital and sanitoria accommodation

War casualties and increases in cases of respiratory diseases put a great strain on both hospital and sanitorium places leading to efforts to find temporary accommodation wherever it was available.

Shortages of nurses

The rapid increase in patient numbers also meant there was a shortage of nurses which meant every person with any qualifications or who could be trained was pressed into service. Many of the medically qualified staff of the Public Health Department went into hospital service although some staff were retained for critical services such as maternity.

War Time Nurseries

Many young mothers took up wartime roles and needed care facilities for their children. Eighty war time nurseries were created in the City to meet this demand. Whilst Dr. Newsholme welcomed the determination of all concerned in setting up the nurseries, he expressed anxieties that the 'young girls' who staffed them would not have the skills for the job and that the nurseries themselves might become places where diseases spread.

'The laxity of morals'

In 1942, Dr. Newsholme commented that the 'laxity of morals' occasioned by the war was having a detrimental effect on public health. He reported that there had been a marked increase in the number of illegitimate births and that the department was having to deal with an increase in the number of unmarried mothers needing help. There was also a major increase in venereal disease: a 50% increase in cases of syphilis and a 10% increase in cases of gonorrhoea.

Despite the many new threats to public health brought by the war, the overall picture for the health of the population was very positive. The death rate in 1945 was 11.2 confirming a series of the lowest figures on record, distorted only by figures of 2.21 for 1940 and 1.94 for 1941 when the air raids led to much death and destruction. Infant mortality also recorded some of the lowest annual figures, 42 in 1944, 49 in 1945 and 40 in 1946. The figures for maternal mortality were also the best ever achieved: 1.34 in 1944, 1.41 in 1945 and 0.85 in 1946.

Post-War Developments and the NHS Act

The Post-War period (1946-1949) was a period of slow recovery for the city. The return of decommissioned service people after the war and waves of immigration meant that the housing situation worsened with severe overcrowding in many places. There was a great shortage of building materials and efforts to rebuild and repair existing housing were severely hampered. The General Sanitary Inspectors did their best to identify the most critical housing needs but they were hampered by lack of numbers: the normal team of 50 was reduced to a team of 22. There was no opportunity in this period to return to the programme of slum clearance, a programme that needed re-examination because many of the areas had suffered severe bomb damage. In 1947, the Council made an application to the Minister of Town and Country Planning to re-develop five large areas of central Birmingham. The application sought permission to purchase 29,526 houses and re-house 90,000 people. The application was successful but the process of compulsory purchase and re-housing would take several years and Dr. Newsholme did not expect to see work beginning before he retired.

The most important post-war development by far however was the passing of the 1946 National Health Service Act. It came into effect on July 5th 1948 when in Birmingham responsibility for many of services at the time within the purview of Medical Director of Health passed to the Birmingham Regional Health Board. As the 1948 Annual Report notes this included, the hospitals, infirmaries, mental and mental deficiency institutions, sanitoria, maternity homes, tuberculosis, mass radiography and venereal disease clinics.' Dr. Newsholme estimated that it meant nearly 3,000 staff transferred to the Regional Health Board. Other personal health services were made the responsibility of the council. These included the district nursing service, the ambulance service (made the responsibility of the Fire Brigade Committee), domestic helps and the domiciliary care of the mentally disordered. In other cases there was a division of responsibility between the Regional Health Board and the Council: convalescent care that involved medical treatment was the responsibility of the Board whilst recuperative convalescence became the responsibility of the Council. The organisation of some other services had still to be determined: there was to be consultation about the future relationship between the Health Centres and general practitioner services. Dr. Newsholme concluded that the implementation of all of these changes would be undertaken with immense good will on all sides and with the intention that the spirit of cooperation that already existed would continue into the future because of the close interdependence that would continue to exist between all of the services whether within the NHS or within the Council. He noted however that implementing all of the changes would take a considerable amount of time and effort from many people probably for a number of years.

Whilst all these changes were taking place in respect of personal health services, all of the environmental public health services continued as before.

Reviewing 1928 to 1949

Dr. Newsholme used the final annual report in 1949 before his retirement to offer the Health Committee his thoughts on the challenges to public health during his time in office and what they could be proud of as achievements. Amongst the major challenges he said 'three great vicissitudes leapt to the eye'.

> *The even tenor of administration has thrice been jarred by a major convulsion. Within two years of my taking up my duties in Birmingham, the staff of the Department were suddenly more than doubled, and its activities correspondingly enlarged by the transfer of the City hospitals, infirmaries and certain convalescent homes …to your committee under the terms of the Local Government Act 1929. Some eighteen months before the end of this year the process was reversed and those same institutions together with a number of others.. were transferred from your jurisdiction to that of the Birmingham Regional Hospital Board under the National Health Act 1946.*

On this occasion, the vacuum resulting was filled by a variety of new services, some transferred to your committee, others to be developed by you on lines agreed by the Ministry of Health. To add to the upheaval your residential nurseries and their staff were at the same time transferred under other legislation to the newly formed Children's Committee.

Midway between these two great upheavals .. came the onset of the still more fundamental upheaval of the Second World War. This meant the establishment, at speed and under conditions of heavy pre-occupation and depleted staff, of a great variety of war-time machinery……which had to be superadded to the maintenance of normal public health services. In this connection I note a significant sentence in my slender report of 1939: "It has been of interest to note in how small a degree it has been found practicable to close down public health activities under war conditions, so almost uniformly essential are these services to the welfare of the population".

It can be said, then, without exaggeration that, throughout the vicissitudes of these years, the work of the Public Health Department has never been dull and has often been difficult.
(Annual Report 1949).

In discussing the significant developments during this period Dr. Newsholme drew attention to the following:

Maternity and Child Welfare

Dr. Newsholme described this as the premier service in the country because of the way it integrated all of the services required by a mother-to-be, a mother in labour and a mother with a child to rear. He noted that the recent developments had 'shifted the balance', moving maternity work to the NHS and residential nurseries to the Children's Committee.

Housing

Dr. Newsholme described progress in housing as 'chequered'. They had made very substantial progress in repairing defects in the existing housing stock and in slum clearance but the war had brought that to a sudden halt. The damage resulting from the air raids now made the housing situation much worse and it was proving difficult in the post-war period to undertake major work.

Infectious diseases

Birmingham had escaped lightly from major epidemics between 1928 and 1949 and Dr. Newsholme attributed this to the alertness of the medical officers concerned. In the prevention of diphtheria Dr. Newsholme said:

Birmingham has been a pioneer in, and one of the most successful exponents in the country, of diphtheria immunization.
Annual Report 1949.

The Treatment of Tuberculosis

Although tuberculosis continued to be one of the major health problems of the nation, Birmingham had developed a comprehensive and integrated treatment service which was succeeding in bringing the death rate down. Between 1928 and 1937 the average death rate from pulmonary tuberculosis was 825, between 1939 and 1948 it was 711 and in 1949 it was 595.

Despite the vicissitudes public health in Birmingham showed great improvements between 1928 and 1949. In the period 1926-1930 the death rate was 11.6; in 1948 it was 9.8 (the lowest on record) and in 1949 it was 10.7. In England and Wales in 1948 it was 10.8 and in 1949 it was 11.7. The infant mortality rate in 1949 was 31 per 1,000 life births, the lowest on record, and the neonatal death rate (before 4 weeks from birth) had decreased from 30.1 in 1942 to 17.7 in 1949. Maternal mortality had also reached a new low at 0.4 per 1,000 live births.

Chapter 5: 1950 - 1960 Matthew Burn Public Health After the Birth of the NHS

Birmingham in the 1950s

Birmingham recovered quickly after the second World War and enjoyed an economic boom through the 1950s, particularly with the further growth of the automotive and electrical industries. This growth was, however, not welcomed by central government which, because of industrial stagnation in the north of England, Scotland and Wales, wished to spread industrial development across the nation and away from the two centres, London and Birmingham, which continued to attract most investment[9]. Beginning with the Distribution of Industry Act in 1945, government sought to limit growth in Birmingham. The population was 1,113,000 in 1951 but a target was set to reduce this to 990,000 by 1960, (in 1960, the population was 1,093,160). The effect of the restriction on growth was that new industries no longer came to the city and its prosperity depended on the growth of existing industries. It became increasingly dependent on large industries such as car manufacturers. Throughout the 1950s there was full employment in the city and large-scale immigration began to occur both with an extension of the Irish population and an influx of people from the commonwealth countries, particularly from South Asia.

The Public Health Team

Dr. Matthew Burn was appointed Medical Officer of Health in 1950 having previously been deputy to Dr. H. P. Newsholme. Dr. Eric Millar was appointed as deputy to Dr. Burn.

A Portrait of Dr. Matthew Burn

In his first Annual Report in 1950 and his final one in 1960 Dr. Burn set out the size and range of services of the Public Health Department following the departure of the Hospitals and Sanitoria to be part of the National Health Services:

9 Sutcliffe, Anthony; Smith, Roger (1974), Birmingham 1939–1970, History of Birmingham, vol. 3, London: Oxford University Press, ISBN 978-0-19-215182-7

Composition of the Public Health Department 1950 and 1960

Service/Department	Staff Numbers	
	1950	1960
Public Health Office	186	141
Maternity and Child Welfare		
Including Health Visitors (157), Midwives (144) Infant Welfare Centres (32), Day Nurseries (654) and Domestic Helps (305)	1,812	2,040
Diphtheria Immunisation Department (1960 Immunisation Department)	11	54
Mental Health Department	19	51
Chest Clinic (1960 TB Department)	24	27
Sanitary Inspectors Department (1960 Public Health Inspectors) including Inspectors (1950: 67, 1960: 93)	141	189
Housing Department	41	36
Analytical Laboratory	16	15
Works Department	60	134
Total	2,310	2,687

Dr. Burn used a classification to describe how the department was constituted. He reported that now the Hospitals and Sanitoria were part of the NHS, restorative health services had left the Public Health Department and it was now concerned with preventative health services.

In a review of the past 50 years, he concluded that the original focus of preventive health services had been on environmental factors (now represented in the Sanitary Inspectors Department, Housing Department and the Analytical Laboratory) but to this had been added an increasing emphasis on Personal Health services, and, in particular the array of services provided by the Maternity and Child Welfare Department.

By 1960 staff numbers had increased slightly but there were no major changes, other than changes of name, for example, the Sanitary Inspectors Department became the Public Health Inspectors. The most notable change was that the Mental Health Department had grown from 19 staff in 1950 to 51 in 1960.

The Effect of the NHS on Public Health in the Local Authority

In 1959 the Ministry of Health asked Medical Officers of Health to review how the establishment of the NHS had impacted the public health services in local authorities in the decade 1948 to 1958. In his response (reproduced in full in the 1959 Annual Report), whilst praising the culture of cooperation and teamwork that had prevailed between NHS staff and the personal health staff of Public Health throughout this period, Dr. Burn drew attention to a range of structural changes that had gradually evolved. He reported that initially the existing knowledge of one another and the sense of shared purpose had enabled care to continue as before irrespective of the organisational change but gradually, as the interdependencies became more obvious, new practices were instituted to ensure good care was sustained.

One significant change occurred in relation to the work of the midwives. Over the decade there had been an increase in the number of hospital confinements with a commensurate decrease in the number of births midwifes attended at home. However, pressure on hospital beds meant the authorities were keen to discharge mothers before the expected 14-day period elapsed: in practice most mothers were discharged on or before the 9th day. This was made possible by the midwives changing most of their work from attending births to caring for mothers and babies when they first return home.

A similar change occurred in the work of the health visitors. Attendances at welfare centres for ante and post-natal consultations had decreased, but alternatively the health visitors work with the family unit as a whole had more than occupied the time which would have been spent in the routine of welfare centre work.

Dr. Burn also acknowledged the interdependence of the work of General Practitioners and the Personal Health staff of Public Health and he proposed that more integrated ways of working should be developed by the General Practitioners and the health visitors team. He encouraged, in particular, the use by GPs of the many Welfare Centres in the City. Twenty new Welfare Centres had been opened in the 1950s to ensure that mothers and babies did not have far to travel to see health visitors in any part of the city. GPs were encouraged to provide antenatal, postnatal and infant welfare clinics in the Welfare Centres.

Other Developments in Personal Services

Care for the Elderly

Dr. Burn had noted the increase in people over 65 between 1947 and 1958 and he anticipated that the number of elderly people in Birmingham would continue to increase. Dr. Burn estimated that there were 7,779 more persons of 65+ in 1956 than in 1947. He was concerned that many elderly people lived isolated lives in poor accommodation and were very vulnerable to many forms of illness and disease. In the 1956 annual report he records that, of the 517 deaths that year attributed to pneumonia, 337 of these occurred over the age of 65.

The aim in Public Health was to enable as many older people as possible to remain in their own homes for as long as possible and there was an expansion in personal health services to the elderly to achieve that aim. The availability of a comprehensive domestic service in the city provided support for people to remain in their homes when their health began to wane. When they did need hospital admission, home nursing, home help and kindred services working with the general practitioner enabled the hospital authorities to discharge a patient to their home or care home earlier than would be the case if these services were unavailable, thus releasing medical and surgical beds for cases awaiting urgent admission to hospital.

The National Assistance Acts of 1948 and 1951 required local authorities to make provisions for older people in need of assistance, both financial assistance and through the provision of suitable accommodation. This included being able to remove elderly people from unsuitable accommodation if necessary. In 1953 and 1954, 83 and 88 cases respectively were investigated for possible compulsory removal. In the majority of cases this was found to be unnecessary: arrangements could be made to support the elderly person to remain in their home or they agreed voluntarily to be admitted to hospital or a care home. In 4 cases in 1953 and 6 cases in 1954 it was necessary to make compulsory removals under the Act.

The Mental Health Department

Several services that dealt with mental services were brought together as part of the Personal Health Services in Public Health during the 1950s to establish a Mental Health Department that grew steadily in size. Dr. Burn saw this development as a very important recognition of the growing importance of mental health in all its forms. The function of the department was to work alongside the mental hospitals in Birmingham, now part of the NHS, to provide a community service for mental health. Three aspects of its work are of particular note. It worked with people declared to be 'mentally deficient' to see whether they could be supported in the community rather than referred for hospital care. It also worked as an 'after care' service for hospitals who could discharge people who had

received treatment for mental health problems and could now be rehabilitated in the community. The 1958 annual report records that, of the 344 referrals made to Psychiatric Social Services in the department, 2007 came from two of the 4 mental hospitals in Birmingham. Finally, the department worked closely with health visitors to increase their awareness of mental illness particularly in relation to the 'problem families' they encountered. There was particular concern that problems in family dynamics could have an impact on the mental wellbeing of children that could have long term implications. In 1959 the department deployed some of its staff to work with 98 'problem families' referred by health visitors.

Environmental Services

Although Personal Health Services, notably the Maternity and Child Welfare Services, had grown to be the biggest section of the Public Health Department, Dr. Burn was at pains to stress the continued importance of Environmental Services. Indeed, in the 1950 annual report he stressed the urgency of improving housing in the city.

Good housing is to me the foundation stone upon which to ensure mental and physical health, and it gives me great anxiety in knowing that thousands of our citizens are forced to live either in unfit houses or under seriously overcrowded conditions because of the lack of available houses. Under these conditions of living an educative process is taking place, the evil results of which can be seen as the children advance in years - the expenditure of money at this stage to attempt to remedy the mental and physical faults is surely uneconomical, and it is to the causative factor – bad housing – that we should give our attention. It is therefore with much happiness that I note the increased rate of housebuilding. May it increase tenfold – a wise investment with rich dividends. (Annual Report 1960).

In 1950 there were still 28,917 back-to-back houses in Birmingham, 62% of them in the central wards. They were still overcrowded, had virtually no ventilation or sunlight and made use of shared WC and washing facilities. The slum clearance programme that had been halted during the war was able to be resumed in 1950 because house building was increasing and there was some possibility of rehousing families when homes were demolished. But between 1950 and 1954 progress was slow, the rate of new building not permitting much progress to be made with demolition. Some progress was made in the major redevelopments in the central wards: in 1951, for example, a new block of flats was erected in Duddeston and Nechells after a slum clearance programme. The Housing Repairs and Rent Act in 1954 made it possible for the council to acquire properties for the purpose of repair and in view of the slow rate of progress of slum clearance, a different approach was adopted; to acquire properties that in time would be demolished but to repair them so that they could be occupied safely for a few more years. The annual reports of 1953 and 1954 note that the housing problem was getting worse because more older properties were deteriorating and adding to the numbers needing demolition. It was also noted that new immigrants from commonwealth countries tended to occupy these substandard properties and cause further overcrowding. By 1960 the overall rate of demolition had not improved (3,516 new homes had been built and 2,606 slum properties demolished) and it was estimated there were still 25,000 unfit homes needing demolition. Of these it was estimated that 18,000 could be repaired sufficiently for continued occupation, with repairs including better lighting and paved courtyards.

The Clean Air Act of 1956 also led to an improvement in air quality. The Act was introduced after the many deaths caused by the great smog of 1952 in London. It included provisions for councils to declare smoke control areas in which only smokeless fuel could be used and for factories to phase out any furnaces that produced black smoke. In Birmingham three smoke control areas were in operation by 1960. The process of introducing the areas was complicated by the number of different immigrant communities that now inhabited them which meant that leaflets explaining the regulations were printed in English, Hindi, Urdu and Arabic. The air pollution in the centre of Birmingham was exacerbated by the number of steam locomotives on the railways and the railway companies were

encouraged to make faster progress with the switch to diesel locomotives. The Annual Report of 1959 welcomed these developments because:

> *It is believed that atmospheric pollution has played some part in the 1,695 deaths from pneumonia and bronchitis and 540 from cancer of the lung that occurred during the year 1959.*

The same report reflects on the early results from the smoke free areas:

> *Measurements are already showing a progressive fall in atmospheric pollution and the environment will steadily become cleaner and brighter.*

The Killing Diseases

In 1950 the five principal 'killing diseases' were described as:

- Diseases of the circulatory system
- Cancer
- Diseases of the respiratory system
- Diseases of the nervous system
- Tuberculosis

At the end of the decade, except for tuberculosis, these diseases remained the most common causes of death. Cancer deaths had shown a gradual increase in numbers from 2,106 in 1950 to 2,260 in 1960 and deaths from pneumonia, bronchitis and influenza continued at a high rate with a peak of 1,979 in 1959 when there was a serious outbreak of influenza. Dr. Burn attributed the continued dominance of these diseases to the ageing population.

Deaths from tuberculosis had fallen to a new low of 88 in 1960 reflecting a gradual reduction every year since 1947. Progress was not attributed to one cause although the immunization of the younger population with the B.C.G vaccine meant that no person under the age of 35 died in 1960. Other contributing factors were that, in 1960, all cattle in the country were declared to be TB free, there was much less overcrowding in the city, the process of early identification of the disease adopted by the Chest Clinic and the treatments in sanitoria and in light therapy were all being more successful.

The Chest Clinic

A major concern across the country in the early 1950s was an epidemic of poliomyelitis. In the first half of the 1950s there were approximately 8,000 cases a year in the United Kingdom. In Birmingham in 1950 there were 442 cases and 57 deaths. In 1956 the Salk vaccine became available and the Immunisation Section undertook a rapid immunisation programme with the result that by1960 the confirmed cases were 19 and there were no deaths.

There were no other major outbreaks in infectious diseases in the 1950s which was in large measure the result of widespread immunisation programme being undertaken with the young people of Birmingham. The immunisation of children against diphtheria continued every year and there were no deaths for three years in succession at the end of the 1950s. Immunisation against yellow fever and smallpox was also undertaken where necessary.

The Vital Statistics

At the end of the decade 'vital statistics' (as they had become known) about the health of the city were showing positive trends.

The infant mortality rate was slightly better than for England in 1953 (26.0 per 1,000 births compared with 27.0 in England) and a new all-time low of 22.6 was achieved in 1960. Although there were still differences, the infant mortality rates in the central wards achieved a new low of 27 (middle wards 22, outer wards 21). Maternity mortality was 0.52. The death rate was 11.03 per thousand which was higher than the record of 9.8 achieved in 1948. This was again attributed to the higher proportion of older people in the population.

Chapter 6: 1961-1974 Eric Millar The Slum Clearance Completed

Birmingham in the 1960s

The growth of Birmingham during the 1950s saw a different turn during the 1960s and 1970s. In the early 1960s, the City was heavily congested, with a severe shortage of housing, poor housing conditions, transport problems and high air pollution. Central government had been imposing a series of measures to curb development in urban areas since the 1950s, and the Control of Office of Employment Act 1965 was enacted to curb office and industrial development in Birmingham's conurbation, which contributed to a population decline of 106,260 people between 1961 and 1973, most of whom were of working age. By 1966, Birmingham's restricted manufacturing sector shrank by 10% compared to 1951. In 1961 the population was 1,110,290 an increase of 17,000 people. By 1973 it had declined to 1,004,030.

The Public Health Team

Dr. E.L.M Millar was the Medical Officer for Health between 1961-1974, having served as Deputy Director of the department since 1950. Dr. Millar oversaw large re-organisations and transitions within his department, as various responsibilities were added and removed by central government. He was in post during the transition of public health from local authorities to the NHS, after which the role of Medical Officer for Health was annexed, and he became Director of Public Health in what became Birmingham Health Authority.

When Dr. Millar began his first full year in office in 1962, he oversaw some 2,800 members of staff and worked with a range of sub-committees of the Health Committee, e.g., Mental Health, Finance, Maternity and Child Welfare, Health Education, Staffing.

The creation of Birmingham's Social Services department, which was set up on 1st January 1971, meant that responsibility for provision of services such as nurseries, child minding, care for unmarried mothers, home help, mental health services and senior staff training centres were transferred from public health to the Social Services department. Alongside the gradual transfer of responsibilities was the transfer of many staff, including senior members of staff.

By 1973, the department had declined to around 1,700 members of staff and only the Finance Committee and General Purposes Sub-Committee remained. Many of the services that had been the responsibility of the Public Health Department were assigned elsewhere. In one case, responsibility for the emission of pollutants was transferred to the Alkali Etc but an application by the council to the ministry led to it being transferred back to Public Health.

Dr. Millar had supported Dr. Burn through his Directorship in the 1950s, and during his term as Director himself he implemented several policies and initiatives that had begun in the 1950s to improve the health and well-being of Birmingham's population. Whilst the concerns of the MOH a century earlier were concentrated on improving insanitary living conditions in the city and controlling the infectious illnesses that arose from them, in the 1960s, the main work to be done by the Department had changed focus.

The Department's Work and Achievements

Below, the department's work and achievements under Dr. Millar will be highlighted in relation to the main causes of death, infant mortality, housing, atmospheric pollution, health education and fluoridation.

Main Causes of Death

The death rate in Birmingham continued to be on par with England between 1961 and 1973. In 1961, there were 12,683 deaths and a death rate of 11.42 per 1,000. In 1973, there were 12,163 deaths and a death rate of 12.11 per 1,000.

By the 1960s and early 1970s deaths rates from zymotic diseases, such as diphtheria, diarrhoea, scarlet fever, typhoid, scarlet fever, whooping cough, measles, smallpox, had largely been brought under control through successful vaccination and health education programmes. Throughout this period, the notifications for these diseases decreased and the limited number of deaths were generally associated with a lack of proper immunisation and/or poor living conditions. Outbreaks of infectious diseases continued to take place but were adeptly managed by Dr. Millar's department.

Although deaths due to smallpox had been eradicated in England since the 1930s, with very few notifications between 1961-1973, in 1962 several potential outbreaks of smallpox were swiftly contained by the department through 'public epidemiological techniques of a kind that many medical officers serving now only know from text-books' (Annual Report page 11). This included using public communications to identify and trace several hundred people who went on to be vaccinated, retrospective analysis of medical case notes and taking measures to meet immigrants arriving from Karachi in Pakistan (where there was an outbreak of smallpox) to encourage them to co-operate with public health procedures. To curtail a potential outbreak the department swiftly traced, quarantined and/or vaccinated over 400 people, including bus conductors, train cleaners, railway workers and other travellers.

Compared with a century ago, when infectious diseases were the main causes of death, and when the majority of deaths occurred in infants and children, by the early 1970s the main causes of death were non-communicable, or chronic, diseases, and the majority of deaths occurred in people aged 65 and over.

In 1873, the high birth rate and high infant mortality rate meant that infant mortality constituted a significant proportion of the high death rate. Those aged over 59 on the other hand constituted 16.4% of all deaths. By the 1970s, a lower birth rate, social and medicinal improvements in maternal and infant care, and in the health and socio-environmental conditions of the general population, meant that the growing population of older people made up the majority of deaths; in 1873, those aged 60 and over constituted 16.4% of all deaths whilst in 1973 those aged 65 and over accounted for 69.6% of total deaths. Conversely, infant mortality constituted 2.8% of all deaths.

The main causes of death during the 1960s and early 1970s were heart disease, cancer, cerebro-vascular disease (blood flow to brain) and pneumonia/bronchitis/influenza, as shown by the table below.

Main Causes of Death, 1961-1973

Year	Cancer		Circulatory System Diseases		Respiratory System Diseases		Cerebro-Vascular Disease
	Rate	No.	Rate	No.	Rate	No.	No.
1961	2.07	2,303	4.01	3,913	1.53	1,914	1,678
1962	2.08	2,323	3.89	3,787	1.64	1,771	1,697
1963	2.14	2,390	3.93	3,737	1.52	1,661	1,783
1964	2.08	2,297	3.67	3,442	1.35	1,541	1,640
1965	2.23	2,460	3.86	3,661	1.35	1,499	1,781
1966	2.24	2,451	3.77	3,584	1.56	1,794	1,670
1967	2.30	2,539	3.72	3,670	1.21	1,283	1,811
1968	2.43	2,608	3.95	3,779	1.56	1,657	1,794
1969	2.35	2,557	3.90	3,880	1.86	2,037	1,662

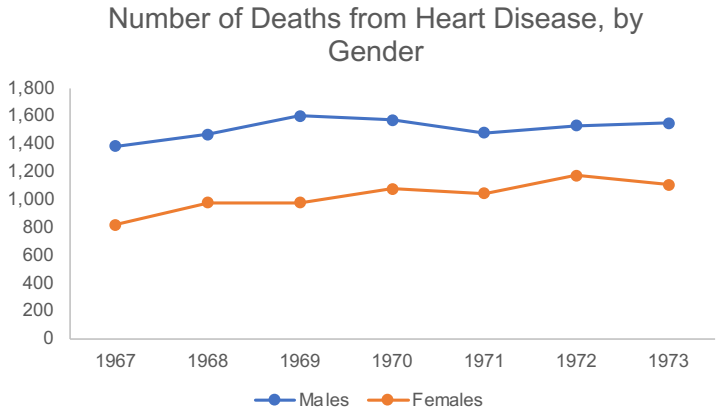
1970	2.39	2,588	3.87	3,657	1.69	1,729	1,611
1971	2.50	2,533	4.0	3,543	1.16	1,508	1,625
1972	2.43	2,451	4.28	3,790	2.03	1,911	1,655
1973	2.64	2,655	4.17	3,742	1.95	1,814	1,510

Source: DPH Annual Reports, 1961-1973

Rates of heart disease and lung cancer rose sharply during this period, as they did nationally, and accounted for around half of all deaths in Birmingham.

In 1961, the rate of deaths from cancer was 2.07 per 1,000 whilst in 1973 it was 2.64 deaths per 1,000. Whilst the number of deaths from cancer increased slightly from 2,297 to 2,655 over this period, the percentage of these deaths increased from 18.16% to 21.83%. Heart disease caused around 31% of all deaths throughout this period.

The majority of deaths from heart disease occurred in men, although the number of women dying from this disease rose substantially during this time, as shown by the graph below.



Source: DPH Annual Reports, 1967-1973

In 1967, 1,386 men and 822 women died from ischaemic heart disease, compared to 1,555 men and 1,108 women in 1973. Of the 2,663 people to die from heart disease in 1973, the vast majority were aged 60 and over (81.8%). A similar pattern occurred for lung cancer. In the early 1970s, research was conclusively showing the relationship between smoking and coronary disease and lung cancer.

To tackle the increasing rise of behavioural and lifestyle related chronic health diseases the department focused its attention on improving the health of Birmingham through health education and fostering individual responsibility, by encouraging individuals to take up or desist from certain behaviours and practices. Evidence of the impact of smoking, alcohol and poor nutrition on poor health was growing, and the MOH was keen to raise public awareness of these issues, as outlined in the Health Education section below.

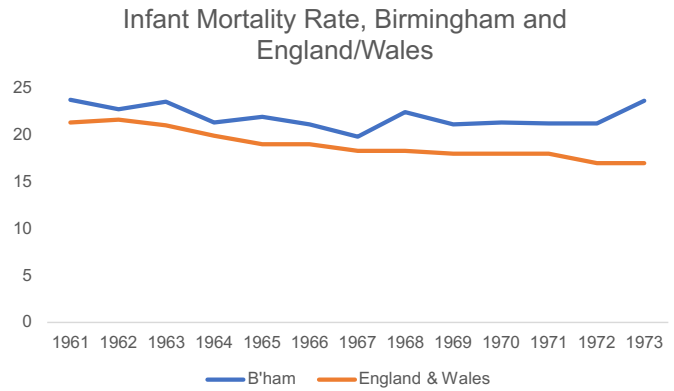
Infant Mortality

The reduction of infant mortality was simultaneously one of the major challenges and major achievements of Dr. Millar's period as MOH, the responsibility for which lay within the Maternity section of the department.

Infant mortality had significantly reduced since the mid-19th century, when a high birth rate, malnutrition and infectious diseases contributed to an Infant Mortality Rate of 196 deaths per 1,000 live births in 1875.

During Dr. Millar's term, the number of infant deaths continued to decline but the infant mortality rates fluctuated between 19.8-23.8 deaths per 1,000 live births. The rate in Birmingham declined between 1961 (23.8, n=515) and 1972 (21.3, n=345). However, Birmingham overall had a higher infant mortality rate than England during this period, on average 2.8 deaths per 1,000 live births higher. Furthermore, the disparity between Birmingham's infant mortality rate and England's infant mortality rate over this time increased from 2.4 deaths per 1,000 live births to 3.8 deaths per 1,000 live births.

The high rate of infant mortality was influenced by the lack of sustained improvements to standards in living conditions and the local residents lack of awareness about infant care, as Dr. Millar himself highlighted.

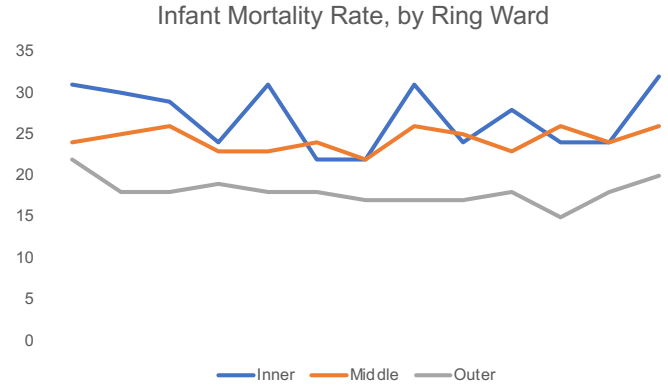


Source: DPH Annual Reports 1961-1973

The majority of infant mortality deaths occurred in babies less than 28 days old, and in particular, in babies less than 7 days old. The rate of infant mortality was also significantly higher for babies born in inner/middle ring wards, babies born to Irish and non-white parents and babies born to unmarried mothers, all of which were interrelated.

Infant mortality rates between zones varied considerably and reflected the vast differences in deprivation across the city; the closer to the centre, the higher the rate of infant mortality. Efforts to improve housing and living conditions contributed to a record low of infant mortality in 1966 (21.2 deaths per 1,000 live births) and again in 1967 (19.80 deaths per 1,000 live births).

Much of these efforts focused on the inner zone, including redevelopment of housing and an increase in health visitors and health inspections, and meant that in 1966, for the first time, the inner zone not only had a record low rate of infant mortality, but also had a lower rate of infant mortality than the middle zone (24), which continued to suffer from further deterioration and poor housing conditions, such as overcrowding. The line graph below illustrates the Infant Mortality Rate in different zones (ring wards).

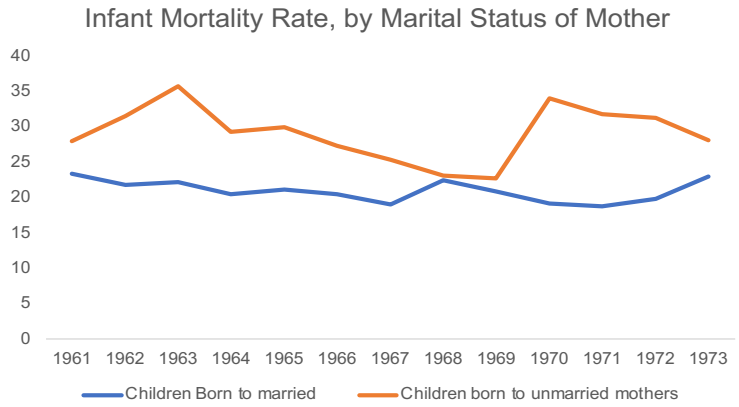


Source: DPH Annual Reports 1961-1973

However, such progress was not sustained, with disparities between the inner/middle and outer wards fluctuating. Social improvements in the inner ward were often offset by social deterioration in the middle ward, and the increasing number of babies born to immigrant parents and unmarried mothers, both of whom had higher rates of infant mortality and were more likely to be born in inner and middle wards. According to Dr. Millar, those living in unfit houses with a lack of facilities, combined with:

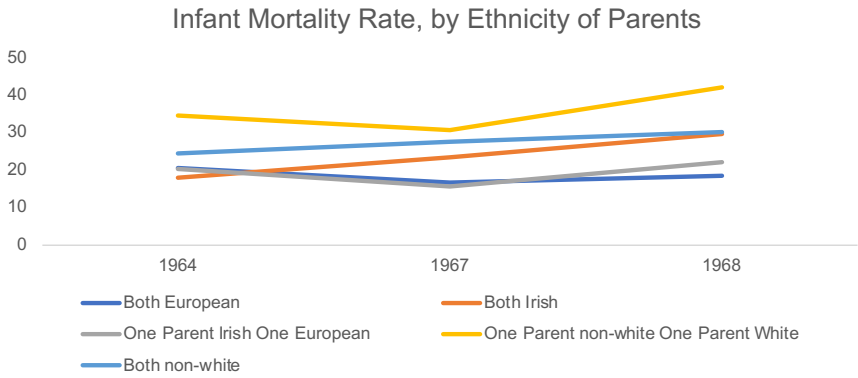
> *"Varying degrees of ignorance and incompetence… [posed]… the greatest challenge to the health and social services of the City" (Annual Report 1966 p12).*

The graph below illustrates the rates of infant mortality between 1961-1973 for married and unmarried mothers. Infant mortality rates continued to be higher for unmarried mothers than for married mothers throughout this period. By 1968, the gap between married mothers (22.44 per 1,000) and unmarried mothers (23.12) had reduced substantially. However, following this period the gap between these groups continued to widen and fluctuate (the year 1973 being somewhat of an anomaly).



Source: DPH Annual Reports, 1961-1973

Parental ethnicity was also a significant factor in infant mortality rates. Infant mortality rates were highest for babies born to one white parent and one non-white parent, followed by two non-white parents, two Irish parents and one Irish parent and one European parent; the infant mortality rate for these groups in 1968 was 42.1 per 1,000, 30.2 per 1,000, 29.6 per 1,000 and 22.2 per 1,000 respectively and increased between 1964-1968. Babies born to two white parents had the lowest rate of infant mortality (18.6 per 1,000 in 1968) and increased between 1964 to 1968. The graph below outlines the rates of infant mortality between 1961-1973 by parental ethnicity.



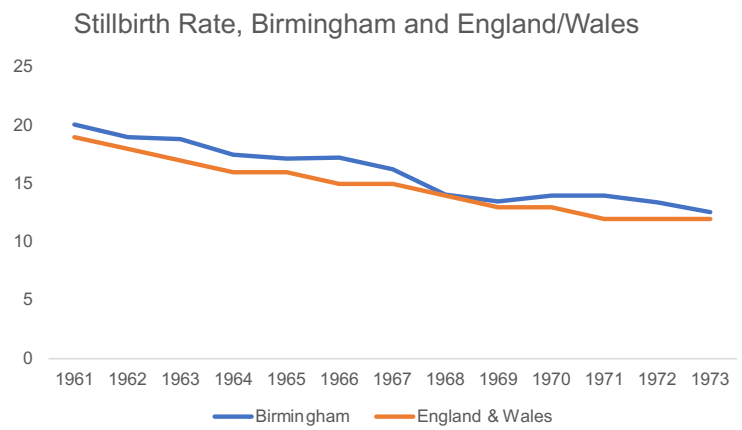
Source: DPH Annual Reports 1964-1968

In 1961, the main causes of infant deaths were premature birth (34%), congenital malformations (21%) and pneumonia (16%). 1968 showed a similar picture. By 1973, improvements in maternal health and infant care meant that premature birth and pneumonia were no longer the main causes of infant death; instead, other causes of neonatal mortality (e.g., birth injury) (22%), congenital abnormalities (20%) and respiratory problems (13%) were the top causes of infant death.

As increasing numbers of children with disabilities survived neonatal operations, and lived longer, more attention needed to be paid to meeting the needs of an increasing community of disabled children (Annual report 1968).

A regular "bright spot" in infant mortality rates between 1961-1973 was the reduction of still births, which continued to decrease over this period. In 1961, the still birth rate was 20.15 per 1,000 births and in 1973 it was 12.62 per 1,000 births.

The table below illustrates this decline:



Source: DPH Annual Reports 1961-1973

Housing

Whereas the focus of the MOH a century ago was on improving the insanitary living conditions, e.g., through the provision of clean water, waste disposal, the paving of streets, in the 1960s and early 1970s, the MOH was focused on improving the health and well-being of residents through ensuring that all houses enabled a basic standard of living. Recognising the long-term nature of this work, Dr. Millar noted in his 1964 annual report that "dramatic advances and new records must not be looked for in the work of this Section" (p. 218). However, housing was one of the biggest achievements of the department during this period and one which Dr. Millar took the 'utmost pleasure and satisfaction' in addressing.

Dr. Millar's programme of work involved implementing existing policies to create better living conditions. This included seeing through the successful completion of the Slum Clearance Programme, in which properties which were deemed unfit were brought under the Department's control and either demolished or identified as 'improvement areas', as legislated for by the Housing Act 1964. Dr. Millar's main focus was on tackling 'multiple occupation', or overcrowding, which he saw as the cause of many of the city's health problems. In addition to the housing programmes, Dr. Millar saw taking legal action against landlords providing sub-standard housing and educating people as being central to improving the health of residents.

Although many slums and living conditions had significantly improved by the 1960s, the poor condition of let-in lodgings and overcrowding still posed a serious problem. Economic immigrants, in particular, were subject to living in these conditions, having little financial and social resources other than to accept poor housing in the inner city for employment.

In spite of staff shortages and increasing duties placed on the department by new legislation, in 1962 Dr. Millar aimed to ensure that:

> *by the end of 1965 every house in the City which is unfit for human habitation and is appropriate for action… is either under Corporation ownership or is well advanced on the road to becoming so (p. 218).*

Although the department exceeded its own forecasts in this regard, the year-on-year increase in homes unfit for habitation meant that the programme had to continue for a while long.

In 1961, the local authority had created 3,389 new dwellings, either through new build or conversion of existing flats, the majority of which were provided by the council and the remainder by private enterprise. However, the actual number of new available dwellings was significantly shaped by the demolition of unfit housing (whose residents had to be re-homed), which was another aim of the department. That same year, when 2,633 unfit dwellings were demolished, there was therefore a net gain of 756 new dwellings. That particular year, a population increase of

some 17,000 people compounded the poor housing situation, leading to an increase of overcrowding and habitation in poor living conditions. In 1962, there were 45,000 people on the Housing Register waiting for a new home.

The Housing Act 1964 (and subsequent amendments) gave local authorities the power to create 'improvement areas'. The Act(s) shifted the focus from demolition of unfit housing to the repair of housing that could be brought up to adequate standards as part of a wider process of urban renewal. Houses within assigned 'improvement areas' were split into those which were already fit for habitation and those which needed to be brought up to standard. The Act made it the responsibility of the department to ensure that all houses be fitted with 5 basic amenities- hot water supply, a bath/shower, hand wash basin, internal WC, and adequate food storage.

1965 was a particularly good year for the improvement of housing conditions, and indeed Dr. Millar declared this:

> *Probably the city's greatest achievement having a bearing on health and happiness, with a significant increase in new dwellings, and the slum clearance programme 'near completion' (p.14).*

The council created 5,425 new dwellings in this year, an increase of 31% compared to 1964. The majority of these (around three-quarters) were owned by the Corporation. The year saw the demolition of 3,670 unfit houses, an increase of 1,100 from the previous year.

By 1965, the council had acquired most of the unfit houses in the city, with some 145,000 houses under its responsibility, and the Public Health Department worked with the Housing Management Department to provide basic amenities to repairable homes in the Slum Clearance Programme. Around 50-60,000 properties in the city which lacked modern amenities still required improvements and were dealt with under the 'Improvement Areas Programme' which was to be included in an Amendment to the Housing Act in 1965.

The building of new dwellings continued to increase year-on-year, and only the following year Dr. Millar declared that:

the building of so large a number of new houses was surely the city's greatest social achievement in 1966.

> *In 1966 the Council introduced a New Registration Scheme for landlords to enable control over multiple occupation and, in 1969, an Amendment to the Housing Act required landlords to obtain a certificate to show that houses satisfied certain living conditions.*

By the mid-1960s, the success of the Slum Clearance Programme enabled a re-organisation of the Public Health Inspectorate to re-focus efforts where needed, including to the increasing number of houses coming under its ownership. For example, the department focused on the disinfection and disinfestation of homes and on the compulsory Improvement Areas programme.

Efforts were concentrated on particular inner-city areas, such as Handsworth, Balsall Heath and Sparkbrook, which attracted concentrations of immigrants who were forced to take up the poor living conditions offered in houses of multiple occupation. Dr Millar paid particular attention to Houses of Multiple Occupation in what were large Victorian houses unfit for such occupation. Overcrowding and a lack of maintenance led to structural decay in these houses, which were not affordably repairable:

> The conditions found in this class of property are often as bad, or even worse, than those found in the most typical congested slum areas dealt with 10 years ago… it is in housing of this type that "slum" conditions now present a problem' 1966
> Annual Report p.220

However, even by 1967, Dr. Millar reported improvements in such conditions, stating that:

The unregulated spread of multiple occupation which created near slum conditions in quite extensive areas of the City has at last been checked (p. 13-14).

> *Dr. Millar's Housing Department undertook extensive efforts to address the poor housing conditions which was often achieved with a shortage of inspectors as well as increasing legislative demands. This vast programme of work, which Dr. Millar saw the fruits of during his term, included an increase in inspections, ensuring that all notices were followed up and that non-compliance was fined, identifying unfit housing and taking them under corporation control and/or up to adequate standards, health education (particularly for immigrants who occupied unfit dwellings) and legal proceedings.*

Whilst early in Dr. Millar's term, bringing houses up to standard included providing refurbishments such as watertight roofing, new ceilings and extensive redecoration, later it included provided basic amenities as highlighted in the Housing Act 1964 as a minimum. In 1964, the high level of legal proceedings against landlords meant that extra sessions had to be held on a Wednesday afternoon at the Magistrate's Court so that all the cases could be dealt with. By 1966, legal proceedings had reduced by a third, which Dr. Millar put down to:

> *The general improvement in conditions in houses of multiple occupation as a result of very considerable efforts expended in the last five years (p. 232).*

In the early 1970s, the MOH supported a new Urban Renewal Programme, a multi-organisational initiative which sought to focus on the whole inner-city areas and to include housing areas outside of the traditional redevelopment catchment. The aim of this programme was to upgrade existing sub-standard housing and provide a localised approach, indicating a shift away from earlier policies of demolition.

Atmospheric Pollution

The department continued to lead the way in measuring and addressing atmospheric pollution. Birmingham was heavily congested during the 1960s, and in December 1962 the air pollution was so poor that it was likened to the 'Great Smog of London', with smog-like conditions killing 342 (mostly elderly) people.

The burning of coal and solid fuels were the main cause of pollution in the early 1960s. Industrial and commercial premises continued to reduce their pollutants through avoiding excessive smoke emissions from chimneys and through the use of mechanical stokers and gas and electric furnaces, as required by the Clean Air Act 1956. Premises which did not adhere to this were reprimanded with fines or prosecution by the department. The department worked closely with other partners (e.g. architects, engineers, manufacturers) to ensure that progress with installing the required equipment in industry continued.

Dr. Millar set the aim of making Birmingham 'smoke-free' by the end of the 1970s and he oversaw an intensive work programme towards achieving this. Having had its responsibilities for the emissions of pollutants transferred to the Alkali Etc. Works Inspectorate in the mid-1950s, the council made an application to the Minister for Housing to resume its control over smoke, grit and dust emissions. The Minister's decision to grant this application reflects the council's competence in this area, where the councils specific 'qualifications and experience in smoke prevention' and it's 'tradition of interest and successful action in relation to air pollution in its district' were cited as deciding factors (Annual Report 1962 p. 282).

The main priority of the 1960s and early 1970s was to change the type of fuel used by local businesses and houses from coal to smokeless fuels, such as oil and gas. Domestic fires accounted for around 50% of atmospheric pollution and much of the department's efforts focused on addressing this problem.

A central measure of The Clean Air Act 1956 was the introduction of 'smoke control areas', in which only smokeless fuels could be burned (e.g., oil and gas). Dr. Millar worked hard to expand this programme and submitted orders for amongst the largest areas in the UK. In 1961, there were 18 smoke control areas and 15,468 dwellings subject to smoke control area orders. By 1968 this had increased to 140 smoke control areas with 182,013 dwellings, covering around 30% of the city. By 1973, 70% of the city was in a smoke control area, numbering some 217,660 dwellings. A national shortage of smokeless fuel hindered the department's efforts to expand its smoke control areas, which it otherwise was forecasted to do.

Recognising the importance of public co-operation, the department undertook a large campaign to inform people about the benefits of smoke free areas. This included household visits, exhibitions, public lectures, pamphlets, notices in the press, using the West Midlands Gas Board to undertake demonstrations, and the provision of grants to change appliances (some funded by central government). Indeed, such was the success of this campaign that a common request from the public was to have their dwellings included in these areas. New homes were built with fireplaces using approved smokeless fuels and efforts were made to bring houses in smoke control areas up to standard with minimum delay, e.g., through the replacement of fireplaces and the installation of oil-fired furnaces.

The department's achievement in encouraging households to convert to smokeless fuel appliances is evidenced over Dr. Millar's first decade in term. In 1960, 75% of appliances were fuelled by smokeless solids and 20% of appliances were gas fired. By 1969, the use of smokeless solid fuel appliances reduced to 21% and gas appliances increased to 75%; in 1970 these figures were 13% and 82%, respectively.

The reduction in burning coal and solid fuels, and the take up of oil fuelled and gas fuelled appliances, led to significant improvements in air quality between 1961-1972. Atmospheric pollution from solid deposits in the air decreased significantly over this period, from around 175 tons/sq. mile in 1961 to 124.3 tons/sq. mile in 1970. In 1971, there was a further 24% drop from the previous year to 94.5 tons per sq. mile. Similarly, sulphur pollution declined from around 2.3 mg/100 sq. meters of lead peroxide in 1961 to 1.4 mg/100 sq. meters in 1971. By the late 1960s, the reduction of atmospheric pollution was also clear to see, e.g., cleaner surfaces, fabrics and vegetation.

Continuing the council's innovative and "forward" approach in relation to pollution control and contamination, Dr. Millar oversaw and initiated several leading projects in this area. For example, in 1966 a new refuse destructor was installed at Castle Bromwich. The destructor was the first municipal incinerator in the UK to be equipped with highly efficient electrostatic grit and dust arrestors for flue gas cleaning. Birmingham had also been one of the first places in the UK to install a destructor in 1877. In 1971, the department undertook:

A very substantial programme for the monitoring of environmental contamination by lead … [with]… no similar co-ordinated assessment of this problem being undertaken anywhere in the world (Annual Report 1971 p.15).

Health Education

Birmingham was a pioneer in the promotion of health and health education, beginning this programme in 1947 with a series of lectures and programmes for different age groups. The Health Education of a Joint Committee of the Central and Scottish Health Services Council (The Cohen Report, 1964), whose recommendations were implemented in the creation of a centrally organised health education in the UK in 1968, drew on Birmingham's progress over the years, in particular in the use of mass communications.

Throughout the 1960s and early 1970s, the department used a wide variety of places to communicate health education, including health centres, community groups, GP practices, schools, colleges, dance venues, buses, fire stations and mass media, using a variety of channels, e.g., lectures, exhibitions, factsheets, leaflets, posters, mass communications (TV, radio, newspapers).

The department provided information sessions on a range of topics and delivered these alongside other public health measures. Sessions included information about clean air and smog, nutrition and diet, personal and accommodation hygiene, smoking, alcohol, immunisations, dental health, venereal diseases, obesity, cancers, family planning, mental health, cardiovascular disease.

In 1966, the ongoing promotion of clean air, particularly through the operation and conversion of heating appliances, was seen as a key success by Dr. Millar, and the use of newspapers to encourage such practices led to demands from the public themselves in this regard. A similar reaction was garnered from the smoke control programme. The department worked with several partners to deliver these initiatives. For example, to deliver information about the causes of cancer and how it could be prevented, the department partnered with Queen Elizabeth Hospital to set up health education seminars and literature.

Dr. Millar also took special measures to work with the increasing immigrant populations in Birmingham to enable access to this information. For example, for non-English speaking immigrants, particularly South Asian immigrants, the department arranged lectures in different languages. It also began employing interpreters to help non-English speaking immigrants with health issues and the interpreters also translated publicity materials into other languages.

Fluoridation

Poor dental health had long been a bone of contention for Medical Officers of Health. In 1961, a record number of anaesthetics were administered to children for the extraction of teeth. In 1964, 5,777 adult teeth were extracted, and 5,279 children's teeth were extracted. For adults, the number of extractions far exceeded the number of fillings (2,466).

Although the emerging evidence showed the benefits of water fluoridation for dental health and for reducing cavities in young children, misinformation/anti-fluoridation campaigns and a context of wider public mistrust led to the resistance of water fluoridation across England[10]. In 1962, the Ministry of Health published a report evidencing the benefits of fluoridated water on children's dental cavities and local authorities were invited to implement fluoridation. This was something Birmingham's Health Committee had been considering since the 1950s. Following the advice of the MOH, that year the Health Committee recommended to the City Council that fluoride be introduced into the City's drinking water supply and on June 4th, 1964, Birmingham became the first local authority in the country to introduce a substantive water fluoridation scheme. Further schemes were progressively introduced across the country.

Such was public resistance to fluoridation that by 1969 Birmingham and Watford were the only local councils to fluoridate their water. Nearby towns such as Dudley, Wolverhampton, Walsall and Sandwell did not commence fluoridation until the mid-1980s[11]. Improvements from the scheme were expected to be seen in 5 years' time and Birmingham became a benchmark for the impact of fluoride on dental health, being watched closely by other local authorities. In addition to fluoridation, Dr. Millar was also keen to stress the 'vital importance' of individuals maintaining their own dental health through proper diet and brushing practices.

To assess the impact of fluoride on the dental health of children, an internal survey was carried out annually from 1964. Between 1964-1967, the proportion of children aged 1-2 with 10 or more defective teeth fell from 8.4% to 2.4% for boys and from 7% to 1% for girls. Significant reductions were also made in the number of children with rampant caries aged 1-2 years old. In 1970, an independent study comparing the teeth of 5-year-olds in the Northfield suburb of Birmingham (born using fluoridated water) with their peers in non-fluoridated Dudley reported

10 Sleigh, C. (2021). Fluoridation of drinking water in the UK, c.1962-67: A case study in misinformation before social media. The Royal Society. Available at: https://royalsociety.org/-/media/policy/projects/online-information-environment/oie-water-fluoridation-misinformation.pdf

11 Cotton, J., Charlton, J., & Harkin, G. (2014). Celebrating 50 years of water fluoridation in Birmingham--a time for decision-makers to tackle high tooth decay rates elsewhere. Community dental health, 31(3), 130-131.

that the number of teeth affected by decay had dropped by 46% in fluoridated Northfield compared with only a 2% fall in non-fluoridated Dudley[12].

From 1970 onwards the standards of dental health amongst expectant women and children improved significantly, as evidenced by the table below.

Number of teeth extracted and filled, 1961-1973

Year	No. Children's teeth extracted (0-4)	No. Mother's Teeth Extracted	No. of Children's teeth filled (silver nitrate)	No. of adult teeth filled (silver nitrate)
1961	6,133	10,711	3,069	3,318
1964	5,283	6,974	2,466 (4,420)	4,878 (40)
1967	2,844	3,038	6,487	2,051
1970	913	895	2,052	742
1973	872	355	1,579	562

Source: DPH Annual Reports, 1961-1973

The bold introduction of fluoride in Birmingham's water supply by Dr. Millar, the Health Committee and the Council, significantly improved the dental health of residents in Birmingham, alongside health education sessions. To this day however, the majority of local authorities have chosen not to fluoridate their water, and Birmingham is part of 10% of the population of England which is served by water fluoridation scheme.

Conclusion

Dr. Millar and his Department were responsible for major advances in the health of the residents of Birmingham and these achievements were made in the face of many challenges. Dr. Millar had to oversee large re-organisations and transitions within his department, as various responsibilities were added in response to new legislation and others were removed by central government. When Dr. Millar began his first full year in office in 1962, he oversaw some 2,800 members of staff but by 1973 it was 1,700 strong.

During this period the population of Birmingham declined from 1,115,630 in 1962 to 1,004,030 in 1973 as a result of the curbs on development in the region. The death rate increased slightly during this period but was in line with a similar increase for England: in Birmingham it was 10.6 per 1,000 in 1953 (England 11.4) and 12.1 in 1973 (England 12.0). Infant mortality in Birmingham, which had been similar to England in 1953 (26 compared with 27), was a concern during Dr. Millar's period because it did not decrease as it did in England: in Birmingham it was 23.6 in 1963 and 23.7 in 1973 whereas in England there was a decrease from 21.1 to 17.0.

At the end of his tenure Dr. Millar oversaw the transition of public health in Birmingham from the local authority to the NHS, after which the role of Medical Officer for Health was annexed, and he became Director of Public Health in what became Birmingham Health Authority.

12 Beal J, James P (1971). Dental Caries Prevalence in Five-Year-Old Children following Five and a Half Years of Fluoridation in Birmingham. British Dental Journal, 130, 284.

Chapter 7: 1974 – 2012 Public Health and the NHS

Re-organisations

In 1974 responsibility for public health was passed to the NHS. 38 years later, in 2012, it returned to local authorities. In the transfer to the NHS in 1974 the post of Medical Officer for Health disappeared.

In Birmingham responsibility for public health was taken by the Birmingham Area Health Authority and District Community Physicians were appointed to carry out public health functions.

In 1982 District Health Authorities (DHAs) were established and for each a Director of Public Health was appointed. The Birmingham area was served by five District Health Authorities; Central Birmingham, East Birmingham, West Birmingham, South Birmingham and North Birmingham The Central Birmingham DHA was abolished in 1991. However, the East Birmingham, West Birmingham, South Birmingham and North Birmingham DHAs remained in existence until 1994 when the North and South Birmingham DHAs were formed. These two health authorities were then merged in April 1996 to form the Birmingham Health Authority whose area of responsibility for the population health was coterminous with the City Council. Unlike other city- wide Heath Authorities, it was abolished in March 2002.

Four Primary Care Trusts (PCTs) then took over responsibility from the former Birmingham Health Authority for commissioning health care services and public health programmes

The table below lists the names of Directors of Public Health who served in Birmingham during this period of many organisational change in the NHS.

PERIOD 1982 – 1996 District Health Authorities	Director of Public Health
Central Birmingham	Rod Griffiths (later Bernard Crump)
East Birmingham	Dilip Karanda
West Birmingham	Shirley Toogood
North Birmingham	Elsie May (later Jacky Chambers)
South Birmingham	Colin Porteous

PERIOD 1996 – 2002	Director of Public Health
Birmingham Health Authority	Jacky Chambers

PERIOD 2002 - 2012 Birmingham PCT's and City Council	Director of Public Health
East Birmingham	Richard Mendelsohn
North Birmingham	Jammi Rao [later Nicola Benge for East and North PCT]
Heart of Birmingham	Jacky Chambers
South Birmingham	Chris Spencer-Jones
Birmingham City Council	Jim McManus [2009-2012]

We have been fortunate to interview Dr. Griffiths, Dr. Crump and Dr. Chambers to get their reflections on this period.

For much of this period Dr. Surinder Singh Bakhshi held the post of Medical Officer of Environmental Health (MOEH) working closely with the City Council and later as part of Birmingham's Communicable Disease Unit managed by Birmingham Health Authority public health directorate and based at Heartlands Hospital.

The District Health Authorities (1974-1996)

The early years after the move into the NHS were difficult for those responsible for public health. Very few of the staff from public health in the Council had transferred to the NHS and there was a dearth of people with the skills and knowledge to do the work. There were also many problems in securing funding to do the work.

When Dr. Griffiths was appointed as Director of Public Health in Central Birmingham his staff consisted of one consultant and several trainees[13]. He reports that in the other Districts one had no public health staff, two had single Directors of Public Health and one had a Director and a consultant. He struggled to get funding for more posts because he was bidding against specialist departments in local hospitals. Many of these departments were national centres of excellence that attracted patients from outside Birmingham and were very expensive to run. They were able to make excellent cases for funding. Dr. Griffiths gradually found ways of attracting funding and established a training programme to develop the staff he needed. As the only District with a training programme, it became popular with the other Districts in Birmingham who sent their trainees to attend it. In time it was also taken up in other parts of the country. Dr. Griffiths also had an academic role at the University of Birmingham where he was able to launch a master's programme in public health.

A Portrait of Dr. Griffiths

One way in which Dr. Griffiths established a presence for public health in the NHS (leading to the securing of funding) was to publish an annual report called A Picture of Health that reviewed all of the public health issues in the District. This was before annual reports from Public Health Directors became a requirement in the NHS and it gave the Department the leverage to begin embarking on a significant programme of work. Dr. Griffiths established a strategy for undertaking public health work in the NHS which he felt was different from the form it had taken in the local authority:

> *The model of public health practice that emerged in our department and a few others around the country was very much based in the NHS, using health services to help and treat the disadvantaged and using public health skills to support strategic management in the NHS as a whole. It was a long way from the community service model seen in many local authorities prior to 1974 and was to a significant degree disconnected from a wider health agenda that might have been pursued through local authority contacts or work across government. It was a model made possible by the 1974 and 1982 reorganisations, there is no denying that it was incomplete but it was new and exciting.*
> (R. Griffiths, 2009).

Within this model and with funding secured Dr. Griffiths was able to launch a new service: My first task was to plan the development of what was then called

'priority services', a code word for mental health and mental handicap (later re-coded as 'learning disabilities').

> *I spent a year pulling together advice, evidence and epidemiology to support a plan of development. A service model with a heavy emphasis on the community was used, something that was just emerging as practical, and a plan was put together that needed about a million pounds in the first year.*
> (R. Griffiths 2009.)

13 Griffiths R. Public Health Changes Over My Career Clinical Medicine Journal February 2009

Dr. Griffiths worked with a psychiatrist at a psychiatric hospital in Birmingham to design a community-based approach to the care and treatment of people with learning disabilities to enable them to live in the community and not become, as in the existing approach, institutionalised in hospital settings.

Dr. Griffiths was invited to be a member of the Committee of Inquiry into the future function of Public Health, chaired by Sir Donald Acheson, that published its report in 1988[14]. For this and other contributions to public health, Dr. Griffiths was awarded a CBE.

As funding became available, each of the Directors of Public Health in the Districts developed a separate agenda for change based on the needs they identified in their District. Dr. Crump described them as working on three strands of activity:

- Understanding the wider determinants of health and working with communities to improve health outcomes
- Helping to protect the public from the spread of communicable diseases. This strand was led from the Local Authority by Dr. Bakhshi.
- Helping to modify existing health delivery services and introduce new ones to improve the health of all parts of the community.

As well as developing their own agendas, the Directors of Public Health also worked together on a number of city-wide initiatives.

Two proved particularly significant:

Smoking

There were high rates of smoking in the older working-class estates in Birmingham and many of the immigrant communities also brought high rates of smoking with all the consequences for poor health. The evidence of the dangers of secondary smoking was also by now overwhelming and they got smoking banned from hospitals and other health care settings. They worked with Dr. Bakhshi, the Medical Officer of Environmental Health in the Council, to set up the Smoke-Free Birmingham Alliance to publicise the dangers of smoking and to promote the banning of smoking in public places. There was a city-wide campaign of posters and presentations at sporting events to reach as many people as possible. The result was a significant drop in smoking and the Birmingham Alliance was mentioned in the subsequent White Paper 'Smoking Kills' in which the government took up the campaign.

Health Promotion Through Physical Activity

In many parts of the community and many age groups there was evidence that low levels of physical activity were contributing to high levels of obesity and poor health. In another multi-agency initiative, the Public Health Directors worked with Dr. Bakhshi and the city planning agencies on Walk 2000, which constructed different walking routes through parks in the city to be healthy places to get physical exercise.

14 Acheson D. Public Health in England The Report of the Committee of Inquiry into the future development of the Public Health Function HMSO 1988

The Detection and Management of Infectious Diseases

When the move of public health into the NHS took place, responsibility for the detection and management of infectious diseases remained with Dr. Bakhshi in the council because it would always require a city-wide approach. It became an approach led by Dr. Bakhshi in close collaboration with the Directors of Public Health in the NHS. There were several outbreaks of disease which caused concern in the period from the late 1970s to 2000.

Smallpox

In August 1978 Janet Parker, a medical photographer at Birmingham University, contracted smallpox and died. Mark Pallen[15], in his book 'The Last Days of Smallpox' recounts how Dr. Bakhshi responded to this emergency. He secured unrestricted access to funds and the use of three floors of the local Holiday Inn. With the help of the NHS Directors of Public Health he assembled a team of around 60 doctors, 85 environmental inspectors and nearly 100 administrative staff and between them they identified all the recent contacts of Janet Parker and they were isolated within 24 hours. The containment efforts were successful and no new cases were identified. Seven weeks later Dr. Bakhishi was able to report to the World Health Organisation that the outbreak had been contained and the alert was lifted. Dr. Bakhishi received widespread commendation for his prompt action.

HIV

In the 1980s concerns about the spread of HIV were widespread and all of the Directors of Public Health were involved both in public information campaigns to limit the spread of the disease and also to avoid the spread of misinformation.

A joint city-wide programme, led by Dr. Griffiths, was developed to establish a group of sexual health social workers who could engage with the sex worker community in the city. They succeeded in earning the trust of the sex workers and helped them to understand HIV and how to minimise the risks they took. Birmingham Health Authority continued to commission the HIV public health and health promotion programme and clinical services subsequently with ear -marked funding provided by central government.

Dr. Crump reported getting involved in one particular case when a witch hunt developed in relation to a person with HIV who was allegedly the source of a number of infections in women. Dr. Crump was involved in issues of anonymity, confidentiality and behavioural regulation in sensitive ways over a 9-month period.

A specific issue arose in relation to blood transfusions given to between 4,700 and 6,000 people in the UK, mainly people with haemophilia, who were given blood that contained a plasma-derived product known as Factor Viii imported from the USA. It was found that this product was contaminated with HIV and Hepatitis C and many people died as a result. In Birmingham, as elsewhere, newspaper coverage caused panic by suggesting there was a major epidemic and Dr. Griffiths reports that the switchboard was inundated with people worrying whether they would catch these infections if they had blood transfusions. He trained the switchboard operators in how to answer questions, particularly those related to HIV, and any queries the operators could not answer were directed straight to him. When he had identified an appropriate answer, he shared it with the switchboard operators and, over time, they developed a comprehensive set of standard answers.

15 Pallen M. The last days of Smallpox: Tragedy in Birmingham, 2018 ISBN 978-1980455226

Birmingham Health Authority (1996-2002)

A Portrait of Dr. Chambers

When Dr. Chambers was appointed as DPH for Birmingham Health Authority in 1996, there was concern about the continuing high rates of perinatal [13.1 per 1,000] and infant mortality [8.1 per 1,000] particularly in the Pakistani community. There was also concern about teenage pregnancy, premature deaths from cardiovascular disease and big variations in the quality, uptake and provision of preventive health care provided by general practice and community health services.

Two annual health reports were produced, "Closing the Gap" and "Meeting the Needs", that described inequalities in health and health care provision between different areas and neighbourhoods in the city. The reports proposed an evidence based and partnership approach to commissioning public health and preventive health care programmes in the future. The Health Authority worked closely with the local authority to secure around £50 million regeneration monies from the Single Regeneration Budget (SRB) to help the most disadvantaged wards in the city and to actively engage with BME communities to promote infant and child health in the Early Years Programme.

In November 1999 the achievements of Birmingham Health Authority[16] in working with the city council, improving early years services and tackling health inequalities were recognised at national level when it received the HSJ Health Authority of the Year Award.

The Early Years programme in Birmingham was a multi-agency programme involving community midwives, health visitors, social workers and under 5s education nursery and education staff and was funded by the Single Regeneration Budget. This programme and model of service delivery became a prototype for the Labour Government's SureStart programme.

The Health Authority also secured funding for a multi-agency programme for reducing the high rates of teenage pregnancy in the city. Working with the Chief Education officer, Mr Tim Brighouse and the city's Education Department, sexual health clinicians and providers of contraceptive services, public health staff mapped the areas in Birmingham to identify where there were a high number of teenage pregnancies, and worked with the schools to educate, change perceptions and increase access and self-referral to walk-in contraception services. It resulted in a steep decline in the number of teenage pregnancies and contributed to a published report called 'Sex in the City'[17].

The teenage pregnancy programme continued as a city-wide programme over the period when PCTs were established, with the opening of ten local young people's drop-in services offering advice, information and access to condoms, pregnancy testing and chlamydia screening and developing links with schools and children's centres in high teenage conception rate wards. Plans included a new Pregnancy Fast Track service in which free pregnancy testing in some pharmacies had links to a multilingual call centre.

Dr Chambers was invited to be a member of the Independent Inquiry into Inequalities in Health led by Sir Donald Acheson[18] and in 2002 was awarded an OBE for her work on health inequalities.

The publication in 1998 of the Acheson Report[19] on Inequalities in Health provided inputs to the White Paper 'Our Healthier Nation' that was published in 1999 and the NHS Plan published in 2000. The report documented a wide range of factors that determined inequalities in health and made recommendations for

16 Health Services Journal 25th November 199 page 23
17 Deshpande et al 'Sex in the City': Birmingham's take on sexual health delivery' Journal of Family Planning and Reproductive Health Care 35(2) May 2009
18 Acheson D. Independent inquiry into inequalities in health: report. HMSO; 1998

the reduction of health inequalities in many areas including poverty, income, employment, housing, the environment, gender and ethnicity. It recommended that, for all new health related policies, an analysis be conducted to assess the impact on health inequalities and that Directors of Public Health be appointed in every health authority. In response to the Acheson report the Government tasked health and local authorities with developing integrated plans to address the health inequalities in their areas.

A key feature of the delivery of these plans were Local Area Agreements introduced in 2004 (after the abolition of the Health Authority and during the period when PCTs became established) and the city received £22 million funding under this agreement to tackle national and local targets for increasing men's life expectancy and reducing infant mortality and their determinants.

The Primary Care Trusts

The creation of Primary Care Trusts took place in 2002, initially establishing four in Birmingham (North, South, East and Heart of Birmingham). In 2006 North and East merged to form the North and East Birmingham PCT. The responsibilities of a PCT were to commission primary, community and secondary health services from providers. They also provided some community services directly. The focus on community services meant that each PCT engaged in a wide variety of public health initiatives, some specific to the PCT but many in association with other PCTs, the local council and other partners.

As Birmingham was once again divided into four PCTs, the Directors of Public Health of each PCT worked together to take forward city wide programmes and deliver the city-wide targets for which they and the city council were accountable under the Local Area agreement. The Directors of Public Health met regularly to agree leadership of each programme and to share progress with the programmes.

In 2009 the City Council appointed Dr Jim McManus to lead a city-wide approach to public health on behalf of the city council. Some of the public health initiatives undertaken collaboratively during this period were as follows.

Infant mortality

Although rates of infant and perinatal mortality in Birmingham had been declining over 20 years, the city remained an outlier when compared with other areas with similar levels of deprivation. Previous research had repeatedly shown that Pakistani communities were over-represented in these mortality figures, that one of the causes were rare congenital abnormalities due to recessive disorders and that the risks of these type of congenital abnormalities was doubled by consanguineous marriage (marriage between couples related as second cousins or closer).

Heart of Birmingham commissioned a 3-year family-centred programme aimed at providing enhanced specialist genetic and diagnostic services for families affected by these rare recessive disorders as well as providing education and resources for healthcare professionals and affected families. The aim was to improve genetic literacy within communities and health care professionals, address "cultural sensitivities, preconceptions, and misconceptions around consanguinity and restore trust among communities that have past experience of discrimination."

There was also a city-wide approach to commissioning maternity services, training and recruitment of Pregnancy Outreach Workers (POWs) to support disadvantaged and vulnerable women through the different stages of pregnancy, offering emotional, social and practical support.

Increasing life expectancy

The PCTs also worked collaboratively to commission and promote stop smoking services, incentivise general practice to offer MOT health checks for all men over 50, and to halt the rise in childhood obesity. A programme called Villa Vitality, a partnership between the Heart of Birmingham Trust with Aston Villa Football Club offered all school children nutrition, education and physical activity sessions based

at the Club.In 2009 the city council in conjunction with the PCTs also introduced a "Gym for Free scheme" which provided free access to all its civic sports facilities, including swimming pools, gyms and exercise classes. The aim was to remove poverty as a barrier to participation. The results in terms of numbers and demography of people taking up the offer were so impressive and so successful that the scheme was named as winner of the Guardian Public Services Award[20] and continued until 2011.

Quitting Smoking

All three Birmingham PCTs with the City Council launched a city-wide 'Call to Quit' number which people could ring for help and support with giving up smoking and provided drop-in smoking services in city centre locations.

Health Checks for Men

In order to attract men who might not otherwise engage or come forward for health checks the PCTs also commissioned a mobile health screening unit which was deployed in the more deprived wards.

In addition to working collaboratively with their colleagues, the Directors of Public Health in each PCT developed their own agenda specific to the health needs within the PCT area. The next section summaries the work undertaken in each PCT as represented in the annual reports produced by the PCTs.

The Birmingham East and North Primary Care Trust

The Trust had programmes to improve healthy outcomes for children, reduce smoking, reduce obesity, promote positive mental health, reduce the incidence of teenage pregnancy, reduce the rate of infant mortality, improve male life expectancy and prevent cancer. It was part of the National 'Healthy School' programme, a partnership between the health services and education. In the PCT 45% of schools had already achieved NHSS (national health schools status) by April 2008 and another 42% were working towards it. To combat adult obesity the PCT ran 'Size Down' a free six-week weight loss group run by local food health advisors. They also provided a specialist service to treat adults with severe obesity run by a GP, a Dietitian, and a Behavioural Psychologist.

There were several programmes addressing mental health. 'Everyday People' was a city-wide mental health promotion strategy, and the suicide audit group, run with the other PCTs and Solihull Care Trusts, monitored suicide trends to identify hotspots where action could be taken. Also, in conjunction with the other PCTs and partners from the voluntary sector, a successful bid had been made for Lottery funds for a three-year programme to promote positive mental health and wellbeing that included 'Well Employers', providing training and support for employers to manage workplace stress issues and 'Well Communities' to promote healthy physical activity in the most deprived neighbourhoods.

Birmingham South Primary Care Trust

In addition to participating in the joint programmes with the other PCTs listed above, the PCT was engaged in a programme called 'the Heart MOT' aimed at reducing premature heart problems by providing CVD screening services for patients not previously screened to identify 'new' patients and signpost them to be considered for treatment by their GP. Another programme called 'Food Net' worked in partnership with local people in deprived wards to help identify barriers to healthy eating and the action needed to help overcome them.

To support people living with long term conditions a Patient Self-Management Programme was established in which 10 lay people with similar conditions ran courses to help people develop self-management skills. Over 1,000 people participated in these courses. The number of Community Matrons and Case Managers was increased to 6 and 21 respectively to ensure patients with long-term conditions could be discharged from hospital as quickly as possible.

20 Lisa Ramrayka The Guardian PublicServices Award
The Guardian Wednesday 25th November 2009

Heart of Birmingham Primary Care Trust

Health Exchange

In 2006 a novel approach was taken by the Heart of Birmingham PCT to reach its majority BAME population where there was evidence of long-standing health inequalities. The PCT decided to radically change the way it provided health promotion and engaged with the communities it served. The PCT decommissioned its NHS health promotion function and created a new Community Interest Company (CIC) called The Health Exchange. This not-for-profit company was set up to foster innovation and enable access to funding sources which were not available within the NHS. A central commitment was to recruit and train BAME people from local communities so that the organisation more closely reflected, understood and could better engage with the diverse communities it served. 16 years later, the Health Exchange CIC continues to provide lifestyle advice and support with chronic disease management for many thousands of people. In its Annual Reports the Heart of Birmingham PCT reported specific actions being taken to support healthy living in each ward. Four examples are given below:

Sparkbrook ward

Projects were in two themes:

1. Projects to promote healthy lifestyles and tackle health inequalities. These included: Sparkbrook Carnival Community Action, Sparkbrook Leisure Point Pilot, Sparkbrook Family Support Project, Sparkbrook Food Net, Sparkbrook Healthy Lifestyle Project, Sparkbrook Local Sustainable Fund Co-ordinator, Sparkbrook Saheli Women's Group, Sparkbrook St Paul's Venture, Sparkbrook Enabling Women, Free Swimming Initiative.

2. Investments in health and social care provision. These included: Sparkbrook Health Watch, Community Mental Health Worker, Palliative Care for Minority Ethnic Groups, Cancer Care for Minority Ethnic Groups, Elderly Health Project for Irish Older Care.

Soho ward

Projects designed to break social isolation and improve mental health: A volunteering project for local people to promote healthy lifestyles to their friends, neighbours and families, creating a play area for local children to encourage physical activity and social interaction and a Walk 2000 programme to encourage individuals and groups to take more physical exercise.

Ladywood ward

The ARCH (Asylum seekers and refugee centre for health): a dedicated health service for refugees and asylum seekers, was opened in January 2003 and provided primary care services.

Small Heath Ward

Capacity building projects in which the PCT worked in partnership with the local people to reducing poor health and disabilities: a project dedicated to supporting individuals and families affected by deafness; two projects delivered by the voluntary sector to improve support for families with children with disabilities; and two projects to determine the needs of older people in black and minority ethnic communities.

Achievements

The annual reports highlighted many achievements made in the PCTs and below are some examples.

The Birmingham East and North PCT reported:

- In two years the PCT trebled the number of general practices delivering Stop Smoking Services, from 14 to 54, and through the Stop Smoking community pharmacy scheme helped over 800 smokers to stop in 2006/07.
- In 2006/07 the PCT exceeded the national flu vaccination programme target of 70% for all people aged 65 and over
- The PCT achieved a 71.5% rate of uptake for breast screening, higher than the national target of 70%.

The Birmingham South PCT reported:

- Community Matrons and Case Managers supported over 2,700 Very High Intensity Users of services in Primary and Community Care and only 2.7% of patients who are fit for discharge were delayed in their transfer from acute care.
- Life expectancy for the citizens served by the PCT increased between 1996 and 2006 from 78.8 to 81.8 for females and from 73.5 to 76.2 for males.

Dr. Chambers summarised the Public Health achievements for the Heart of Birmingham PCT as follows:

- commissioned in partnership with the City Council. Aston Villa football club and other partners a major programme to tackle childhood obesity and halted the rising trend in childhood obesity
- improved MMRI [94%] and flu vaccination [84%] rales to one of the highest in the country through the introduction of a commercial call centre, collaborative working with GPs, and use of child health and population registers
- increased by l0% uptake of breast feeding over a l0 year period through the introduction of trained lay support workers
- improved by 25% early booking in pregnancy to < 12 weeks through use of community pharmacies, call centre scheduling and direct booking with midwives
- measured the BMI of 90% of Year 0 and Year 6 children
- established a community interest company [Value £1.6 million] working in 35 sites to promote health and wellbeing to BME communities

- commissioned a vascular screening programme for 28,000 men over 40 (ahead of national policy) and evaluated the relative impact of GP versus external provider delivery

- consistently achieved the highest PCT smoking quit rate in the West Midlands region.

Health Outcomes in Birmingham for the Period 1974 to 2012

The population of Birmingham showed very little change in this period: it was 1,004,030 in 1973 and was 1,073,045 in the 2011 Census.

Since a national priority was to increase life expectancy, this became a major index for assessing improvements in health rather than the death rate. During the 20th century there had been a steady improvement in life expectancy in England. In 1903 in England it was 49.5 and by 1958 it had risen to 70.6. In 1981/83 the life expectancy of females in England was 77.0 for males it was 71.1. By 2007/2009 there had been a further improvement: for females in England it was 81.6 and for males it was 77.4. The life expectancy figures for Birmingham in 2007/09 are similar: they were 81.4 for females and 76.4 for males.

In 1973 infant mortality was higher in Birmingham than in England as a whole: it was 23.7 per 1,000 births in Birmingham compared with 17.0 in England.

Between 1973 and 2012 infant mortality figures improved significantly in both Birmingham and England but it remained the case that Birmingham had higher rates than England: in 2013 the rate for Birmingham was 7.2 whereas in England it was 3.8.

Chapter 8: 2012 – 2019 The Return of Public Health to the Council

The Health and Social Care Act 2012

The 2012 Health and Social Care Act dissolved PCTs and replaced them with GP-led Clinical Commissioning Groups (CCGs). In Birmingham the plan was to replace the three existing PCTs with four CCGs: Sandwell and West Birmingham, Birmingham South and Central, Cross City and Northeast Birmingham. In 2012 Northeast Birmingham merged with Cross City and in 2018 a further consolidation created Birmingham and Solihull CCG, one of the largest in England, merging Cross City CCG, Birmingham South and Central CCG and Solihull CCG. In 2021 a merger of the other Birmingham CCGs with the Black Country CCGs created the Sandwell and West Birmingham CCGs resulting in Birmingham and the surrounding area being covered by two large CCGs.

A Portrait of Dr. Jim McManus

The Health and Social Care Act (2012) also created Public Health England to bring together a number of national agencies responsible for facets of public health under one umbrella, and returned local responsibility for public health to local authorities.

Planning for these changes began in 2009 and Birmingham City Council appointed Dr. Jim McManus as Director of Public Health in 2009 to prepare the ground for the council to take up responsibility for public health once again. For the period 2009 to 2012 there were Directors of Public Health in the PCTs and also Dr. McManus appointed by Birmingham City Council.

Dr. Jim McManus was succeeded by Dr. Adrian Phillips in October 2012 who, with responsibility for public health passing to the council, became the sole Director of Public Health for Birmingham. Dr. Phillips left in May 2018 and Dr. Becky Pollard, was appointed as interim director for six months from June 2018.

A Portrait of Dr. Adrian Phillips

A Portrait of Dr. Becky Pollard

This account of the transition of public health back to local authority control includes the reflections of Dr. Adrian Phillips who kindly agreed to be interviewed for this purpose.

The transition back to local authorities caused mixed feelings in the public health community. A survey of 82 Directors of Public Health undertaken for the Association of Directors of Public Health found that 20% of the existing Directors did not intend to transfer from the NHS to the Local Authorities. Those not wishing to move felt that much of the recent impetus in working with colleagues in the health service would be lost. Dr. Phillips, however, saw great benefits from the move:

'I'm not scared of the move to local government because that is where the levers are to improve public health so that is where you should be. If you are trying to make people better, to improve their health, you can't do that if they don't have a job or housing'. [21]

2012-2018 Re-building the Public Health Role in the Local Authority

Dr. Adrian Phillips was formerly Joint Director of Public Health in Wolverhampton. Dr. Phillips described the period after he became Director of Public Health for Birmingham as 'a roller-coaster ride with many challenges'[22]. In this period he and his colleagues sought to re-establish a strong public health team to deal with the many public health issues confronting the city. Dr. Phillips described three major tasks that occupied most of the early years of his period in office: re-commissioning public health services for the city, building a new public health team and forging strong links with important departments and agencies across the city.

Under the Health and Social Care Act, funding for many public health services was made available to local authorities and Dr. Phillips and his colleagues had to commission services for the whole of the city, including services for sexual health, services for drugs and services provided in schools and nurseries. They were particularly concerned with the need to build on the existing arrangements established within the NHS whilst making the new services Birmingham wide.

The new Public Health Department began with approximately 100 staff including consultants, some existing council staff (primarily with a social work background) and staff transferred from the two NHS PCTs. The transfer of the NHS staff raised particular administrative and financial difficulties for the council. They were transferred under TUPE (Transfer of Undertakings (Protection of Employment Conditions) Regulations which sustained their salaries and conditions of service. It led to the Council having to pay a large additional salary bill at a time when local authority funding was being cut by central government. From the beginning Dr. Phillips was having to justify the size of his team whilst meeting the additional responsibilities his department was tasked with.

There were also issues about the skill sets in the new team. Most members of staff had some specific skills in public health but not the range of skills now required. For example, re-commissioning services required full time project management skills which few of the staff possessed. There was also a need for strong information management skills in order, for example, to translate what could often be 'jargonistic' public health data into forms that could be appreciated by council officers and members of the public. Staff were offered appropriate training opportunities but many of them decided it was not the future career for them and, under continuing pressure to reduce the overall salary bill, the size of the public health team gradually reduced.

Building strong links with all the agencies in Birmingham that could play a role in improving public health was also a major task. It included sustaining the important links that had been established with NHS agencies. Council Departments saw

21 Interview in the Guardian Tues 2 April 2013
22 Authors' interview with Dr. Phillips 19 April 2022

themselves as about 'housing' or 'traffic' or 'employment' and not about public health. And yet, as Dr. Phillips pointed out, many public health issues had their roots in the domains of these departments and the job of the public health staff was to help departments develop their own perspective on public health. Similarly, council members did not necessarily see public health as a major priority but they could all be helped to see public health as part of their democratic responsibility to the citizens who elected them.

Dr. Phillips found that some agencies in Birmingham had already accepted they had an important role to play in public health. The police, for example, were already working on issues to do with excessive alcohol consumption in parts of Birmingham. In an interview for the Birmingham Post [23], Dr. Phillips highlighted the problem of excessive drinking in the city. The charity Alcohol Concern reported that in the financial year 2012/2013 NHS Birmingham spent £55 million treating alcohol related illnesses. Dr. Phillips added that 413 deaths had been attributed to alcohol and that 50% of domestic violence cases were predicated by alcohol. He called for the government to introduce minimum unit pricing for alcohol to eliminate the cut-price alcohol industry. To combat the problem the Birmingham Alcohol Strategy 2012-16, initiated during the time public health was in the NHS, was published [24]. The strategy, agreed with the police and a wide variety of partner organisations, aimed to reduce alcohol related harms by the effective working together of local government, the health services, the criminal justice system, the drinks industry, the private sector and the voluntary sector. Together they would work towards the following key outcomes: an increase in life expectancy, a reduction in alcohol related crime and a reduction in the adverse impact of alcohol on families.

Dr. Phillips identified many other public health concerns in Birmingham where significant progress could be made through coordinated action between the many agencies in the city. There was, for example, a high level of obesity in the city's youth: 1 in 4 children in Birmingham were obese and 4 in 10 were overweight or obese. The level of physical inactivity was very high, especially among some of the immigrant communities. Dr. Phillips reacted to news that the escalators at New Street Station were out of order by calling for more stairs to be available at the station and in other public buildings in Birmingham to address the 'epidemic of inactivity' and improving the health and wellbeing of local people. He recognized that designing a city with cycle ways and good walking routes tackled only part of the problem: it was then necessary to get people to use them to be physically active. He concluded that a powerful way of changing behaviour was through the use of behavioural economics techniques, in this case through the use of role models. The role model might, for example, be someone who the young community looked up to who adopted cycling as their means of getting to work. That person could become an example for others to follow.

Dr. Phillips recognised that the city had many public health issues and also, because of the reach of the city and its special status as a very large unitary authority, there were many opportunities to tackle these issues on a scale that could make a significant difference. However, with only limited resources, he could only build the alliances necessary to achieve major change in a few areas. He believed in making a force field analysis of opportunities to identify cases where there was significant stakeholder support to act as drivers for change. He concluded that the issue of air pollution was one such case and this became the major area of concern for much of his tenure.

Air Pollution in 'Motor City UK'

Birmingham had suffered from severe air pollution from its factories in the past and had successfully introduced measures to create a clean air environment. However,

in a lecture to the Academy of Urbanism Annual Congress in 2015, Dr. Phillips drew attention to the return of dangerous levels of air pollution in Birmingham, this time being caused by the fumes generated by high numbers of vehicles on the city's roads.

23 Birmingham Post 15th Oct 2014
24 https://www.birmingham.gov.uk/download/downloads/id/8089/alcohol_strategy_2012_to_2016.pdf

Birmingham was the UK's 'Motor City', the UK equivalent of Detroit, and in many ways the design of the city reflected its status in the motor industry. Not only was the city criss-crossed by many motorways but some important local roads existed to take workers quickly to major centres like Longbridge. As a result city residents were experiencing increasing levels of air pollution as the volume of traffic increased. Dr. Phillips campaigned to increase awareness of the public health dangers of air pollution, always avoiding an anti-traffic approach and only discussing the health issues. The campaign was assisted by new EU actions requiring cities to achieve clean air standards. In March 2019 Birmingham's plans for a CAZ (Clean Air Zone) covering the area of the Middleway Ring Road were approved by the government.

Despite the success of this campaign, Dr. Phillips recognised that it had problematic consequences for some residents and notably for some in the poorer communities which tended to live alongside roads within the Clean Air Zone. He was particularly aware that many relatively new immigrants were taxi drivers and would bear the cost of new low-emission vehicles to continue to ply their trade. It was a case of managing the short-term costs in order to achieve the longer-term benefits for them and their families of living in a much improved environment.

Dr. Phillips saw the problem of air pollution as a manifestation of the consequences of the way we have designed our cities: in this case more to facilitate travel by car than for the health and wellbeing of the citizen. In his lecture to the Annual Congress of the Academy of Urbanism he explored what would be necessary to design cities that made people happy and enabled them to live longer. He drew attention to the need for green spaces and safe routes for people to cycle. In Birmingham the 'Be Active' programme gave people free access to a wide range of physical activities in leisure centres, parks and other areas.

2018 - 2019 A Focus on the Children of Birmingham

Dr. Becky Pollard was interim Director of Public Health for a period in 2018-19 and in her annual report in 2018 she focused on the health issues of the growing numbers of under 5 children in Birmingham. In 2017/18 the population of Birmingham was 1,117,008 of which 32.9% were children (compared with 20.1% of the population of England). Birmingham was fast becoming one of the most ethnically diverse cities in England and 42% of the population was part of the minority ethnic group. The number of children under 5 in these communities was growing quickly: in 2018 there were 85,820 children under 5, equating to 7,6% of the population, the highest percentage in any English city. The majority of these children (60%) were from a minority ethnic background. Many of the children were also from deprived families living in poor, often overcrowded, housing. The 2011 census showed that in Birmingham 6.7% of families with dependent children lived in these conditions compared with 3.2% nationally. There were many indicators of poor health in the under 5s, including high rates of childhood obesity, high rates of A&E attendance and lower vaccination uptake. Two-thirds (66%) of these children were assessed as being in a good state of readiness for school compared with a national average of 70%.

A number of initiatives had been taken to improve the health and wellbeing of local children under 5. The 'Birmingham Forward Steps' programme was a community-based and family-centred approach aimed at providing early help to families and facilitating access to health and social care services. The 'Healthy Start Voucher Scheme' also provided low-income families with financial support to purchase milk, fruit and vegetables.

The report provides case studies of how the Forward Steps programme worked in practice. A partnership between Birmingham's Children Hospital and Birmingham Forward Steps, for example, meant that when a child who had been in hospital was ready for discharge, the child's needs were assessed and packages of support were tailored to their needs through collaboration between the parents and local

community organisations. Health visitors also played a crucial role in meeting the holistic needs of vulnerable mothers with young children, for example in securing them appropriate accommodation and referring them to support programmes such as 'Universal Partnership Plus'.

Health Outcomes

Between 2009 and 2019 life expectancy in Birmingham continued to improve. Life expectancy for females was 81.4 in 2007/2009 and it increased to 82.6 in 2017/2019 (for England in 2017/2019 it was 83.4). Life expectancy for males in Birmingham was 76.4 in 2007/2009 and it to improved slightly to 78.4 in 2017/2019 (England in 2017/2019 was 79.8).

Infant mortality in Birmingham dropped from 7.2 in 2013 to 6.0 in 2020. However, it continued to be greater than in England as a whole in which the rates dropped from 3.8 to 3.6.

Chapter 9: 2019 – Present Justin Varney Covid-19 and a Focus on Inequalities

Introduction

Dr Varney took up the post of Director of Public Health for Birmingham in April 2019. Before taking up this position Dr Varney had gained a broad range of experience building upon his original training in General Practice, including roles in the NHS, local government and national government. Through those roles, he had gained considerable experience in building partnerships across the public, private and community sector, particularly aimed at improving people's health and wellbeing. He led national programmes of action including on physical activity, health and work, sexual and reproductive health and HIV prevention.

Associated with Dr Varney's appointment as Director of Public Health, Birmingham City Council issued for consultation a Public Health Green Paper in March 2019. Residents of Birmingham were invited to provide their views on a series of proposed priority areas detailed in the green paper which were aimed at reducing health inequalities in Birmingham. The diagram below, taken from this green paper, highlighted four priority areas – child health, working age adults, ageing well and healthy environment. Feedback on the consultation, in August 2019, indicated that 85% of respondents agreed with the Public Health vision and core values as laid out in the Public Health Green Paper. The four proposed priority areas were also well supported, the proportion of respondents agreeing with each priority were as follows: child health (90%); working age adults – 87%; ageing well – 92%; and healthy environment – 91%. Similarly, 94% agreed that addressing health inequalities should be one of the overarching themes. There was less support for maximising the public health gains from the Commonwealth Games being an overarching theme.

A Portrait of Dr. Justin Varney

Birmingham Public Health: Priorities on a page

Addressing health inequalities because every child, citizen and place matters

Priority 1: Child health

- Reducing infant mortality
- Taking a whole systems approach to childhood obesity
- Supporting the mental and physical health of our most vulnerable children

Priority 2: Working age adults

- Supporting workplaces to improve their employee wellbeing offer
- Addressing the cumulative impact of unhealthy behaviours such as tobacco control, substance misuse and physical inactivity
- Supporting the mental and physical health of our most vulnerable adults

Priority 3: Ageing well

- Reducing social isolation
- Providing system wide information, advice and support to enable self-management
- Developing community assets
- Supporting the mental and physical health of our most vulnerable older people

Priority 4: Healthy environment

- Improving air quality
- Increasing the health gains of new developments and transport schemes
- Health protection assurance and response including screening, immunisation and communicable diseases

Maximising the public health gains from hosting the Commonwealth Games

Our Vision:

To improve and protect the health and wellbeing of Birmingham's population by reducing inequalities in health and enabling people to help themselves

Our Values:

- **Equity**
- **Prevention**
- **Evidence based practice**

Our Approach:

- **Population based**
- **Proportionate universalism**
- **Intelligence led**
- **Strategic influence**
- **Communication**
- **Joint working**
- **Health in all policies**

A BOLDER HEALTHIER BIRMINGHAM

Birmingham Public Health Priorities as presented in the Public Health Green Paper, March 2019

In a HealthyBrum on-line interview on 16th June 2022[25], Dr Varney indicated that, at the time of taking up his role as the Director of Public Health (DPH) in Birmingham, he anticipated many challenges and opportunities to improve the health of the people living in Birmingham. However, one thing that he, nor anyone else, foresaw was the way in which COVID-19 would divert and dominate everyone's attention for a major part of the following three years. It was less than a year into the job that the first COVID case was reported in England, rapidly followed by the start of the first national lockdown on 26th March 2020.

The First Year

In his first annual report (as of the end November 2022 this annual report remained in draft form, it's publication having been held up as a result of the emergency actions required to deal with COVID-19) Dr. Varney indicated that he wanted to:

'highlight the challenges that adults living with multiple and complex needs face and reflect on how we, as a city partnership, can make every adult matter.'

The report focused on an analysis of available statistical and service use data across four main disadvantage domains:

- Homelessness
- Substance misuse
- Mental health
- Offending.

It focused in particular on those with multiple and complex needs (MCN) as a result of having to deal with more than one of these, or similar (such as worklessness, experiencing domestic abuse and violence, separation from children), major problems at the same time.

The report highlighted that, despite publication of an influential report on health inequalities in 2010[26], a follow-up report by Sir Michael Marmot, published in 2020[27], identified that health inequalities in the country were widening and it called for a system-wide action to address inequity of support through effective prevention and early intervention.

Drawing upon research carried out by the Lankelly Chase Foundation and Herriott-Watt University[28], which was published in 2015, this 2019/2020 draft annual report indicated that Birmingham belonged to a group of 24 Local Authority areas with the highest prevalence of MCN, and was in 18th place in the ranking. From this research, it was estimated that in Birmingham:

- just over 19,700 people had at least one category of MCN,
- 4,600 had two MCN
- 1,600 had three MCN

25 https://www.youtube.com/watch?v=lzZG3kUOVxU
26 Marmot M. (2010) Fair Society, Healthy Lives: strategic Review of health Inequalities in England Post 2010. London: Marmot Review
27 Marmot M. (2020), Health Equity in England: The Marmot Review 10 Years On.
28 Lankelly Chase Foundation (2015), Hard Edges: Mapping severe and multiple disadvantage, England

The draft 2019/2020 report provided considerable detail relating to focus group and ethnographic research commissioned by the Birmingham Public Health Group, as well as further information drawn from additional literature and policy reviews, including evidence reviews relating to the effectiveness of interventions. The report highlighted a range of strategies on offer across Birmingham including:

- the Birmingham Homelessness Prevention Strategy 2017+
- the Birmingham Domestic Abuse Prevention Strategy 2018-2023
- the Birmingham Armed Forces Community Covenant
- Creating a Mentally Healthy City
- the Birmingham Suicide Prevention Strategy 2019-2024

and also reviewed the provision of a wide range of services, both statutory and non-statutory, and support available, in Birmingham for those experiencing complex needs. Most of these focused on intervention and recovery through a series of carefully designed criteria and pathways. However, despite many examples of good practice and collaboration in tackling some of the most complex needs in Birmingham, the report identified that there were still significant gaps and inequalities and it set out aspirations for addressing these gaps. The report concluded with the following key issues:

- People with multiple complex needs often suffer from physical and mental health problems, unemployment, family breakdown and exclusion. These are the common symptoms of multiple complex needs, but the pathways that lead to developing those needs are unique to each person.
- For many, these pathways begin at a young age and this is when interventions can often be most effective. When current services start identifying, assessing and planning interventions, it is often years too late, increasing significantly the cost to society and the economy.
- Despite the significant number and range of effective services and innovative approaches serving the citizens in Birmingham, they are often insufficiently well-co-ordinated to effectively adapt and support the complex needs and unique journeys of many vulnerable people. Individuals dealing with mental health issues, substance misuse, homelessness and offending often have contact through numerous different departments and teams. These added barriers exacerbate their daily trials and tribulations. If the services provided do not work together effectively to provide a wraparound care, people can slip through the cracks and the organisations involved can be perceived to be out of touch with the real complexity of people's lives.

Re-shaping the Public Health Role

In the first few months after taking up the DPH post, pre-COVID, Dr. Varney began to reshape the focus of the Council's public health activities. He started to build upon some of the opportunities that this particular population offered as well as focusing on some of the major public health challenges faced by this specific community.

Birmingham was the largest unitary Authority in the country with a unique opportunity to explore health status and health inequalities across different sub-groups of the population. Nowhere else offered the same possibilities to start to understand differences between, for example, different African communities or between African and Caribbean communities living in England.

As recognized by the early Medical Officers for Health during the second half of the Nineteenth Century, Dr. Varney also saw something unique about working in Birmingham that was not apparent in other unitary councils. The strength of the Civic Leadership was key to building effective partnerships. Many leaders including council leaders, business leaders, faith leaders, and the police were all working across traditional role boundaries for the overall benefit of the City.

These advantages helped to provide a good basis whereby the DPH could develop policies which addressed some of the considerable health challenges and health inequalities faced by the community. Across Birmingham, average life expectancy was lower than for many other parts of the country and the average life expectancy was very different in different part of the Birmingham, for example those living in Heartlands expected to live 10 years less than in more wealthy parts such as Sutton Four Oaks. The high levels of infant mortality in Birmingham continued to be a major concern, particularly the number of deaths in children under 1 year of age. Smoking continued to contribute to a significant burden of death in Birmingham. Although smoking rates were going down in young people, overall rates were still too high in some communities and there was a need to encourage smoking cessation during pregnancy. Relatively low levels of physical activity and poor diet played a significant role in influencing higher than average levels of diseases in Birmingham such as diabetes, stroke, heart attacks, and cancer.

A major strand of Dr Varney's activity during this period was focused on developing effective ways of supporting people to lead healthier lives. Some progress was being made in areas such as reducing the numbers of rough sleepers, improving the infrastructure for cycling, or working with parents to plan pregnancies more effectively. However, more people were starting to feel negative impacts arising from severe cost of living pressures, for example increasing numbers of people were accessing food banks, and more help was needed for example in making food affordable and accessible.

The COVID-19 period.

On the 5th March 2020 the first case of Covid was reported in Birmingham. In his forward to the 2021 DPH Annual Report[29] Dr Varney stated that:

What followed has been perhaps the most significant challenge to Birmingham since the World Wars. We have lost more citizens to Covid in the last year than to the World War 2 blitz bombing of the city. The impact of Covid has fallen hardest on our most disadvantaged communities through a combination of employment-related exposure, poor baseline health and more challenging living circumstances. Over the last year we have experienced a roller coaster of rising and falling case rates, hospitalisation, and death. The pressure on communities, businesses, education settings, the voluntary and public sector has been immense. It is only because of the strength of partnership and collaboration across the City that we have avoided an even greater loss of life.

In her forward to the report, Councillor Paulette A Hamilton, Cabinet member for Adult Social Care and Health and Chair Birmingham Health and Wellbeing Board observed that:

> *During the early stages of initial lockdown, we were not aware that some of our communities had higher risk rates, which made them more vulnerable to the virus and therefore at a higher risk of serious illness and death than other communities. Many of these communities worked in our frontline services health, social care, education and the hospitality sector and some lived in intergenerational households which contributed to the spread of the virus.*

The annual report provided considerable analysis, both quantitative and qualitative, of the experiences faced by Birmingham's citizens, providing a particular focus on inequalities exposed and exacerbated, and on the overall impact on the city's population.

29 The DPH 2021 Annual Report. COVID-2019: 'The Year I Stopped Dancing'

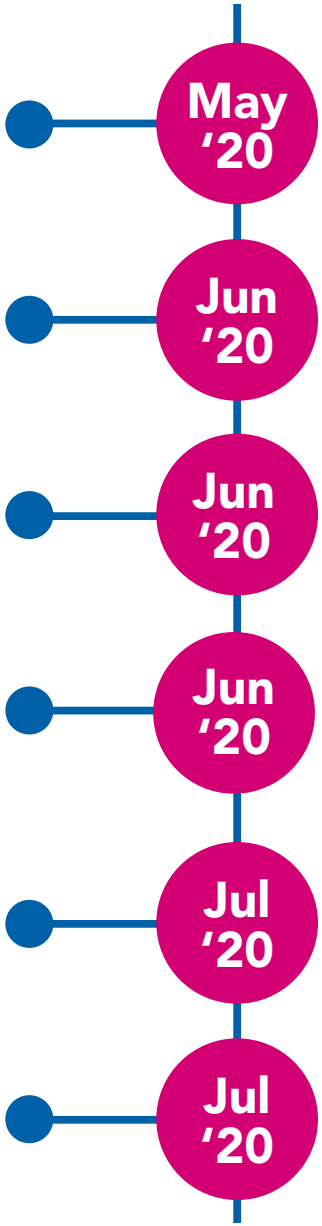
As understanding rapidly grew during the first few weeks and months of the pandemic, it became clear that many Birmingham residents had high rates of the risk factors for exposure and a higher risk of death and severe illness. A larger proportion of the population worked in roles that remained frontline and active during the pandemic. In 2019, 15.7% of all employees in Birmingham worked in human health and social care activities, compared with 13.1% nationally and 10.3% worked in education, compared to 8.7% nationally. Furthermore, living conditions, particularly overcrowding, played a significant role in transmission and Birmingham was particularly adversely affected (based on data from the 2011 Census, Birmingham had 9.1% of households classified as overcrowded compared to 4.8% across England).

Access to testing, and later to vaccination, had a major impact on the public health strategies that were implemented and a significant impact on reducing the severity of the symptoms and the number of deaths arising from the infection.

The report documented in considerable detail the local impact of Covid-19 on the citizens of Birmingham. Case rates, hospital admissions and fatalities were examined quantitatively and associated qualitative research was undertaken to better understand the range of individual experiences in more detail. This included exploring the short term and longer-term impacts on physical health and mental health, including both those who were infected and also looking at the behaviours of those not infected but impacted as a result of the lock-downs that were implemented. Additionally, related impacts resulting from reduced access to a range of other treatments because of the unprecedented pressures on existing services were highlighted.

Birmingham City Council's Public Health Division were at the centre of the strategic response across the City. In order to address the unique set of circumstances posed by the pandemic, Dr Varney brought in additional resources to rapidly build a team and led on a wide range of community engagements. Details of this robust response are captured well in the following table from the 2021 Annual Report:

Birmingham City Council's Covid-19 response timeline



COVID-19 Impact Survey — May '20

The COVID-19 Health and Wellbeing Impact Survey was designed to capture insight into the health and wellbeing behaviours of Birmingham citizens during the COVID-19 outbreak.

Local Covid Outbreak Engagement Board — Jun '20

All upper-tier | local authorities were authorised to create a Local Outbreak Engagemnet Board to provide political ownership and public-facing engagement and communication for outbreak response and be created as a sub-group of Health and Wellbeing Board.

Ward Forums — Jun '20

The first virtual ward forum was held in June 2020 senior Public Health officers (Director, Assistant Director or Consultant) attend 111 meetings, 54/69 wards met during the period (some twice or three times) and received an update on the situation in Birmingham and their ward.

Health Protection Response Team — Jun '20

Outbreak response for specific settings. Expanded health protection cell establishment and training for enhanced contact tracing response capacity for surge capacity.

Testing in Birmingham — Jul '20

Birmingham had seven operational wak-through sites and two operational drive-through sites.

BHealthy Campaign — Jul '20

Birmingham had seven operational wak-through sites and two operational drive-through sites. We also requested two further sites focused on areas of high student resident populations and a further two drive-through mobile testing units.

Sept '20 — COVID-19 Community Champions

A COVID-19 Community Champion network was established in Birmingham, modelled on a network previously established in Newham, London. It is made up of volunteers across the city. who are helping residents stay up to date with how to protect themseives and others against the virus.

Oct '20 — Community Providers

Further community engagement included art and culture focus. An appointed cuture officer to enable public health to engage via this medium. This wil help to engage those who prefer this method as opposed to more formal approaches.

Dec '20 — Community Faith Meetings

- 36+ interfaith meetings
- 18+ COVID-19 virtual briefing sessions for Birmingham Masjids
- 18+ Covid-19 - Meeting with Ministers and Pastors from Black, Churches
- 108+ Ward meetings (including emergency ward meetings)

Feb '21 — Variant

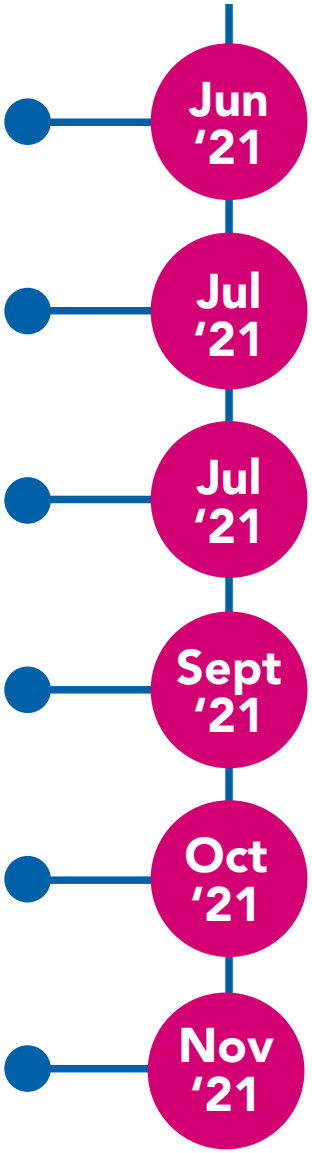
Birmingham City Council's public health team partnered with 16 organisations to effectively reach communities and understand how they have been affected by COVID-19.

Apr '21 — Tweetathon

Took place on 12th April 2021 to encourage take up of the universal home rapid lateral flow testing and to coincide with the launch of Step 2 of the Roadmap out of lockdown #testandtweet

May '21 — Surge Testing

Test kit delivery & collection numbers, by surge testing operation for residents, organisations and communications.



Enhanced Support — Jun '21

Birmingham became an area of enhanced support. The response focuses on increasing rates of testing, dosing the gaps in vaccination and promoting compliance with guidelines.

Enhanced Support Closure — Jul '21

Birmingham which was placed as an area of enhanced support has now been stood down in line with Step 4 as the case rate is now in line with the wider region and the enhanced testing has been completed.

West Birmingham Vaccination Engagement Project July 2021 — Jul '21

In collaboration with BCWB and BVSC, holding engagement sessions with over 2000 people to tackle vaccine hesitancy. Sessions included direct assistance with booking/attendance, wellbeing conversations and follow-up calls.

Asset Mapping of 69 wards — Sept '21

Demographic information, COVID cases, vaccine uptake by ward, commissioned provider summary, main community needs/PH concerns, important contact information to highlight gaps in our current engagement work, scope and commission further partners if required to reach underrepresented communities.

'Covid-19 is not over' Campaign — Oct '21

Targeting areas with higher case rates as well as younger age groups (12-15, 16-17) to encourage vaccination uptake. Also, support for education settings reopening after the October half-term.

Birmingham City of Nature Delivery Framework — Nov '21

The City of Nature Delivery Framework presents more priority on Green Spaces through Birmingham City for sustainable provision, maintenance and use of green and blue spaces.

The 2021 Annual Report concluded by drawing out as much of the learning as possible that was gained during these difficult times and used this as a basis for informing future activities and planning.

The levels of Covid infection rapidly rose in the weeks after the first lock-down and it soon became apparent that the impact of Covid was very unevenly spread across different members of the population in Birmingham. Some of the most disadvantaged citizens were more severely affected in various ways and many pre-pandemic health inequalities that existed in Birmingham were further increased. Wards with high levels of deprivation fared worse and residents from Black, Asian and Minority Ethnic backgrounds were impacted harder than residents from a white background, despite being a smaller part of the population. Those with health risk factors such as obesity or diabetes had an increased risk of death from COVID-19, and Birmingham had higher than national levels of its population exhibiting these risk factors. Lockdowns and social isolation caused a spike in mental health issues, but the impact was uneven as women, older working-aged residents, and Black and Minority Ethnic residents reported higher levels of anxiety and loneliness. The severe restrictions on businesses led to the highest level of unemployment in Birmingham for decades. This included a significant increase in youth unemployment because the retail and hospitality sector was one of the largest employers of 18-24-year olds in the city. Wider societal impacts were also identified. Lockdowns, coronavirus restrictions and emergency powers meant that residents had to trust central and local governments with their safety and rely on them for information. As the pandemic progressed, discontentment with sources of authority grew, especially in relation to messaging around the pandemic.

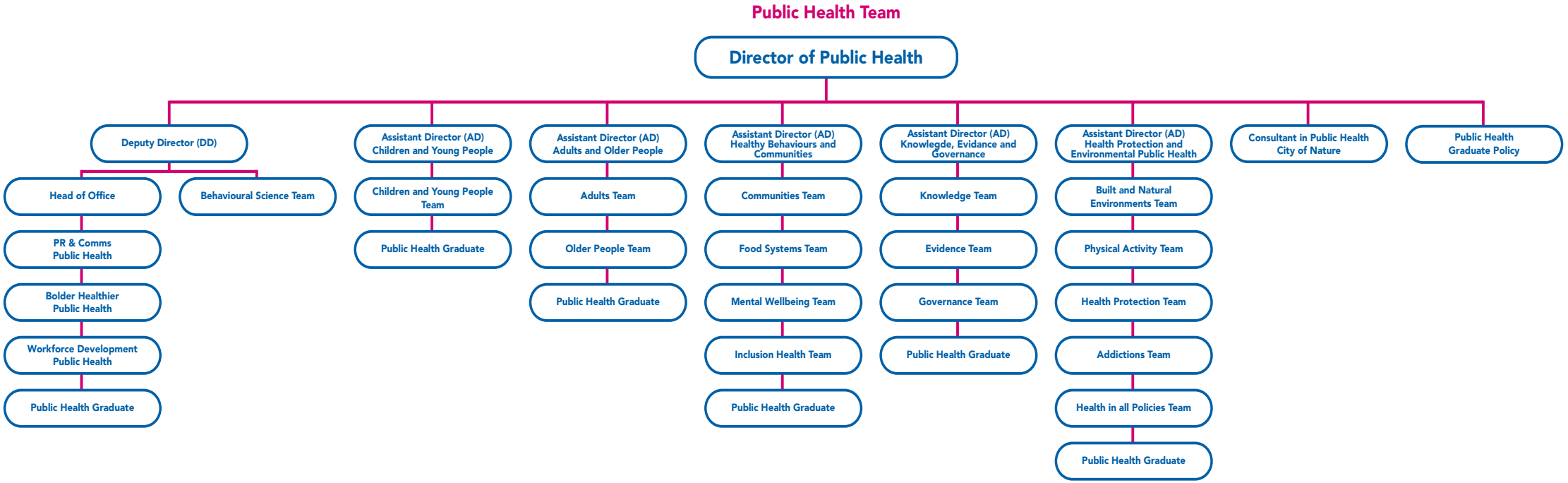
As a result of Covid, increased effort was directed at improving understanding of how social inequalities affected the inequalities in infection and death. In order to mitigate the impact of Covid on the mental wellbeing of those living in Birmingham it was recommended that a specific focus be given to earlier prevention strategies and the overall promotion of better mental health. Priority was also to be given to addressing some of the longer-term impacts of Covid on health including those due to long-Covid.

Current and Future Public Health Priorities

Although Covid dominated the Public Health Division's activities from March 2020 for over eighteen months, other priority work was also undertaken. Birmingham hosted the Commonwealth Games in July/August 2022 and the Public Health Division were engaged in a range of planning activities ahead of these games through part of 2021 and into 2022.

As at August 2023, the Birmingham City Public Health Division had more than 100 staff and an annual budget of £96 million. The organizational structure supporting the DPH at that time was as shown on the next page.

Organizational Structure of the Birmingham Public Health Division



Although there continued to be many issues linked to Covid, the DPH had increasingly been engaging, once again, in the wider public health agenda. As a result of the group's high profile during Covid, public health in Birmingham was seen as a strategic function of the Council and in terms of its relationships with the NHS. The DPH attended the City Board and had a clear role as part of the City's broader strategic planning. This required the DPH to take a lead professionally, building on medical and technical skills, but also to have the political skills to negotiate with elected members of Council, and with the many stakeholders across the City.

"to move a city, the DPH has to be diplomatic and politically smart and that requires a different level of skills from being a technocrat"

"In order to deliver PH in the city you cannot sit in an ivory tower in the council. And the council can't sit in its town hall and say we can achieve it by ourselves. The scale and complexity means that we have to be a kind of webbing route system that branches across the city and interconnects".

(Zoom interview with Dr Varney, 9th November 2022)

Dr Varney thus saw an important aspect of the role to be related to developing appropriate connections between the many stakeholders such as the universities, the NHS, businesses, faith groups, and communities.

Part of the learning from the Covid pandemic led to an even greater emphasis on reducing health inequalities, and this was at the core of many of the issues being addressed by Birmingham's Public Health Division at the time of writing. Air pollution had been recognised as a major problem across Birmingham for a long time and in 2021 the City introduced a Clean Air Zone as part of a wider clean air strategy (published January 2022). Early intervention and prevention strongly influenced a range of activities relating to homelessness prevention, domestic abuse prevention, encouraging greater levels of physical activity and better nutrition (as part of broader aims to reduce levels of, for example, cancer, cardiovascular disease, strokes, liver disease and diabetes), reducing levels of mental health problems and numbers of suicides, reducing levels of smoking and substance misuse, improved school health and wellbeing services, improved health visiting, early years provision and family support. Important work also continued in relation to infection control strategies (especially in the light of the impact, response and wider learnings from Covid). All of these activities were seen to be facilitated by more strongly co-ordinating strategic partnerships and joint working across organisational boundaries.

In order to improve understanding of their health needs, an increased focus has recently been given by Dr Varney and the public health department to a number of activities more closely involving the citizens of the City. As part of a wider national network, Birmingham City Council established in 2017 a Poverty Truth Commission which placed people who have experience of living at the sharp end of poverty at the centre of the initiative to not only hear about their experiences but to also involve them in decisions being made by the Council about poverty. A second Commission is presently being established and this work is led by the Inequalities Team in the Public Health Division.

In partnership with Lewisham Council, Birmingham City Council commissioned a review to gather insights on health inequalities within Black African and Caribbean communities in Birmingham and Lewisham. The review sought to gain an increased understanding, appreciation, and engagement with BAME groups. A relatively unique approach was taken by the review which not only gathered published data and evidence and expert knowledge but also took a balanced account of lived experience and the community voice. Over the course of eighteen months a range of quantitative and qualitative information was obtained.

The Birmingham and Lewisham African Caribbean Health Inequalities Review (BLACHIR)[30] was published in March 2022.

Building on the unique opportunities offered by the size and diversity of the communities covered in Birmingham, Dr Varney commissioned during 2022 a number of Community Health Profiles (CHPs). These allowed deeper dives to be taken into various sub-groups and provided valuable insights into health differences between these groups. This helped to inform the development of more targeted health interventions aimed at reducing some of the inequalities that existed.

CHPs were completed on the following groups:

- Bangladeshi community
- Caribbean Commonwealth community
- Indian community
- Kenyan community
- Muslim community
- Nigerian community
- Pacific Islands community
- Pakistani community
- Sikh community
- Somali community
- Deaf and Hearing Loss community
- Sight loss community
- Lesbian community
- Trans community

And a number of others were being carried out or planned. This represented a major initiative supporting the Public Health Division's work to improve the understanding of the diverse communities of Birmingham. The main objectives for each of the profiles were stated as:

- To identify and summarise the physical health, mental health, lifestyle, behavioural and wider determinants of health-related issues affecting the specific community both nationally and locally
- To identify and summarise gaps in knowledge about the physical health, mental health, lifestyle, behavioural and wider determinants of health-related issues that may be affecting the specific community nationally and locally.
- To collate and present this information under the 10 key priority areas identified in the Health and Wellbeing Strategy for Birmingham 2021
- To engage with the local communities on the evidence found and any gaps

30 https://www.birmingham.gov.uk/downloads/file/23111/blachir_report

» To promote these summaries for Local Authority and wider system use for community and service development.

During 2022, the pressures related to COVID began to ease and the Public Health Division began to ramp up work to support the wider range of Public Health activities. This helped get back on track towards the ambition as set out by Dr Varney in his BrumHealth Video interview that:

"People in the City find it easier, more affordable, simpler and more fun to lead healthier lives rather than unhealthy lives."

Whilst recognizing this was a big ambition, Dr Varney relished the challenge and was optimistic, stating that:

» some exciting things have begun to happen in the last couple of years. Partnerships built through the response to Covid put them in a good position moving forward. There is an energy to be bolder, braver and brilliant in what they do, and that

» there are a lot of jewels across the City but have not been good at wiring these jewels together to make into necklaces. Want to see many more necklaces around the City in the future and to see more people enjoying the potential for their lives because they live in a City where it is easier and safer to be healthy and happy.

Chapter 10: The Challenges and the Achievements

In this chapter the aim is to offer some overall reflections on the 175-year history of public health in Birmingham: to look at the challenges the Directors of Public Health have faced over the years and at the achievements that have been made.

The Challenges

To say that every Director has had to deal with challenges that have hampered progress in dealing with the health issues of Birmingham is an understatement. As Dr. Newsholme put it the 'vicissitudes' (defined as changes in circumstances or futures that are typically unpleasant) have been numerous. Hardly any Director enjoyed a period of stability that enabled them to focus wholly on the task of protecting the health of the Birmingham population. In the past 175 years there have been two world wars that had serious effects on Birmingham and its public health team at the time. There have also been numerous reorganisations, the biggest of all being the move to the NHS and back again. But nearly every Director was faced with more local re-organisations, from the need to take on responsibility for local hospitals to the removal of various responsibilities that were assigned elsewhere. One effect of these changes has been that at times the Director was overseeing rapid growth in the numbers of staff for whom they were responsible and at other times there were rapid declines in numbers, including periods when staff numbers had to be rebuilt from a very low base.

What is striking is that, through all these changes, the work on public health has continued and with some remarkable stories of consistent attacks on major health issues by successive Directors. The story of the clearance of the back-to-back housing in the central wards is one such. This poor-quality housing was identified as a major health hazard by the first Director, Dr. Hill, in 1873. Successive Directors highlighted the problem and fought for the demolition of back-to-backs, a process held up time and again, by 'vicissitudes, such as the first and second World Wars, until, in the 1950s, 75 years later, Dr. Millar could declare the clearance had been completed.

Despite all the challenges the health of the population of Birmingham continued to improve year on year. The death rate continued to fall as did the infant mortality rate and, until the nation was hit by the Covid-19 epidemic, the death rate from infectious diseases also continued to fall. Not all of these gains come directly from the work of the Public Health Department but the evidence from this history points to many contributions that we will now explore.

Ways of Improving Public Health in Birmingham

There are several features of Birmingham and the way that Directors of Public Health and their staff have worked that stand out as contributing to successful improvements in public health.

Birmingham as a very large unitary authority

Birmingham is the largest unitary local authority in the country. Its size means that it often has the resources to respond to public health challenges that other local authorities do not have. It has the opportunity to develop services across the entire city whereas, in other cities, there would be local authority boundaries to negotiate to achieve city-wide services.

Multi-partner engagements to bring about real change

There are many examples in this history where successful change has been the result of multi-partner cooperation. In the early years the successful work on environmental issues was the result of the public health department working with many different departments in the council, with, for example, the water companies and the housing department. After the formation of the NHS, tackling infectious diseases needed close cooperation between community health services and their colleagues in local hospitals. And in more recent years tackling the inequalities experienced by minority communities requires collaborations between the Public Health Department and the many faith groups and charities in the city. Many of the Directors have indicated that an important part of their job, and that of their senior staff, is to foster the development of the multi-partner initiatives needed to bring about major, sustainable changes.

A 'fast follower'?

Although Birmingham has been a pioneer of many initiatives in public health, for example, the fluoridation of the water supply, a number of Directors have pointed out that one of Birmingham's great strengths is its ability to act when a new opportunity comes along, for example, when new legislation makes it possible to act on a health issue in a way not previously possible. The Clean Air Act, for example, made it possible to create smoke free zones and Birmingham was quick to implement smoke free zones across the city.

The Public Health Department as an incubator for new services?

One of the striking features of the re-organisations of public health that occurred so frequently in the 175 years was the number of times a service that began life as part of the Public Health Department was moved to another part of the health and social care services of the city, for example, health visitors, midwives and other child welfare services are no longer part of the Public Health Department. Whilst at the time these changes were often experienced as a loss, they can be interpreted as an achievement. Public health officials work to assess and understand hazards to health and often that has led them to implement a new service to deal with the hazard, a health visitor service, for example, to educate young mothers in the care of their babies. As these services have matured, many of them have been seen as indispensable parts of the health and care system of the city and, in the many re-organisations that have taken place, they have been absorbed into it. To have created something from scratch and to have it accepted as a mainstream component of normal care is a considerable achievement.

Examples of Achievements

In their annual reports and in the interviews we have conducted, the Directors of Public Health have pointed to achievements they have been proud to be part of. We list eleven of these in the table below in recognition of their achievements. The achievements are presented in roughly chronological order.

Public Health Achievements in Birmingham

- » Bringing Clean Water to Birmingham
- » The Clearance of Back-to-Back Housing
- » Conquering Air Pollution
- » Meeting the Challenge of Tuberculosis
- » Promoting Healthy Lifestyles

- Maternity and Child Care: Developing the Roles of Midwives and Health Visitors
- Immunising Against Diphtheria
- Fluoridation of the Water Supply
- Training new public health staff from health visitors to PH professionals
- Understanding the impact of Covid-19
- Reaching Out to Minority Communities

In the next section we have provided summary accounts of the public health work undertaken to achieve these outcomes. Many of the accounts span a number of chapters and illustrate the degree to which it took a sustained programme of work across many decades to achieve some of the major changes.

Bringing Clean Water to Birmingham

In the late 1890s Birmingham was growing rapidly but had insufficient clean water for its population. Dr. Hill, the first Medical Officer of Health, presented evidence to the Council that contaminated water was a major source of infectious diseases in the city and that getting an adequate supply of clean water for the growing population had to be a priority. At that time the Council owned the water companies and Dr. Hill and the water company engineers identified a source of water in the Elan Valley in Wales that could meet the need. The Council put an Act before Parliament to enable it to dam the rivers in the Elan Valley and to build a 73-mile long aqueduct from Wales to Birmingham. The viaduct enabled the water from Wales to flow under gravity, underground and overground and across many rivers and valleys to reach Birmingham. It was recognised as a considerable feat of engineering.

The viaduct was completed in 1904, during the tenure of Sir John Robertson, and feeds reservoirs near Birmingham that continue to supply water to the city. Dr. Hill and Sir John Robertson had responsibility for the care of families displaced by the building of the viaduct and the public health department has had a continuing responsibility for checking the quality of the water in the reservoirs and delivered to homes in Birmingham.

The Clearance of Back-to-Back Housing

The exact origin of back-to-back housing is unclear but it is likely that it was driven by attempts to maximise the use of urban land. The first known mention of purposely designed back-to-back houses was in Bermondsey in 1706, although they did not become a common type there. They were being built in Birmingham and Nottingham in the 1770s, and Manchester and Liverpool in the 1780s and in other industrial towns of the Midlands and North of England throughout the next century. This was during the time when the population in industrial towns grew rapidly, and speculatively-built back-to-backs were seen as an important solution to meeting the increased housing demand. Back-to-backs were built on either side of a spine wall running down the terrace, so the houses had no rear windows and no back gardens. Birmingham's back-to-backs were typically three rooms, one above the other. There is some evidence that indicates that the back-to-back was a relatively popular form of housing with the city's residents in the early years of their development. This was partly because they provided self-contained accommodation which was preferable to sharing a larger dwelling with a cross-section of the poorest people, and partly due to their affordability to a larger number of people, either as owner-occupiers or tenants. However, they were very unpopular with social and sanitary reformers and with local authorities due to the health impacts associated with this form of housing.

The absence of a back yard meant there was nowhere to place a toilet and back-to-back terraces had communal toilet blocks at intervals, often with bedrooms directly above. Health and sanitation became a major concern, instigated by outbreaks of cholera and typhus and the realisation that there was a link between disease, overcrowding and insanitary housing conditions. Formal opposition to back-to-back houses on a national scale goes as far back as 1840, when the Report from the Select Committee on the Health of Towns was published. This report was instigated by the cholera epidemic and the report put forward a number of radical proposals for reform. In the years following this report a number of Acts of Parliament were passed including the Metropolitan Building Act of 1844, the Public Health act of 1848, the Local Government Act 1858, and the Towns Improvement Clauses Act 1858 that provided leverage for local authorities to implement improvements.

Birmingham's first Medical Office for Health, Dr Hill, was a strong advocate for addressing the health problems associated with back-to-back housing. Shortly after taking up this post in 1872, Dr. Hill recommended many changes to the Health Committee about housing and in particular to new builds. The 1875 Public Health Act further strengthened local initiatives as it permitted local authorities to ban back-to-back housing and, Dr. Hill was able to persuade the City Council to pass a byelaw that prevented the continued building of back-to-back housing in Birmingham, the first council to take such action. The Birmingham Corporation Consolidation Act 1883 included a provision to pave much of the city's public spaces and, towards the end of the 1890s this enabled Dr Hill to seek to have courtyards in the areas of back-to-back housing paved in order to provide a cleaner and more hygienic environment and reduce the level of disease. The building of back-to-back housing was finally made illegal, nationally, nearly 20 years later in 1904.

Although slum clearance schemes started to reduce the number of back-to-back houses the scale of the problem was enormous. As late as 1912 there were still 40,000 back-to-back houses left across the central part of the city. During his tenure as MOH, Sir John Robertson continued to campaign ceaselessly to have the back-to-back housing in the central wards replaced. Unfortunately, sufficient funding was not available during this period, especially with the onset of war, to undertake this work and 30,000 residents were still occupying back-to-back housing in the central wards in 1925.

The Housing Act 1930, and a further Housing Act in 1936, gave local authorities new powers to demolish property assessed as unfit for human occupation and to provide subsidies to support the rehousing of displaced families. This gave Dr. Newsholme and his team the opportunity to clear some of the substandard properties in the central wards, with a particular focus on back-to-back houses.

In 1950 there were still 28,917 properties deemed unfit for occupation in Birmingham, including a considerable number of back-to-back houses. Following the second world war, a large national slum clearance initiative was undertaken, largely from 1955 and through the 1960s during the tenures of Dr. Burn and Dr. Millar, and in this time most of Birmingham's back-to-back houses were finally demolished.

Conquering Air Pollution

Air pollution has been recognized as a threat to human health since about 400 BC. Written evidence indicates that early societies recognized a threat to human health and there was a societal desire for a cleaner environment. However, there was little scientific understanding of the causes and this limited the effectiveness of any attempts at control. Between 1800 and 1850 industrialization drew people from rural areas into rapidly developing urbanized areas where burning coal for industry and domestic heating led to a considerable degradation of air quality. Most major European cities in the late nineteenth century had air quality problems. London and Edinburgh were notable but far from unique and Birmingham similarly suffered.

Direct intervention of the British Government by way of legislation was limited during the nineteenth century because of the importance of industry to the national economy. Birmingham, however, stands out as having taken, at times, a stronger line against air pollution as a result of local initiatives taken by the incumbent Medical Officers for Health and Regional Directors of Public Health.

During the period covered by Dr. Hill, Birmingham's first Medical Officer for Health, many small factories were established in the central wards of the City, which also housed the majority of the population in poor housing, creating 'dirty air that affected the breathing of the population'. As a result of the 1875 Public Health Act, Dr. Hill had increased powers to fine factories that produced excessive 'black smoke' and Dr. Hill used these powers to reduce some of the more excessive polluters. The scale of the emission of black smoke from local factories continued to be a major problem throughout Sir John Robertson's tenure as the second Medical Officer for Health (1903-1927) and he continued to press for prosecutions and fines for regular offenders. In 1918 he proposed that future town planning should divide any area into separate zones, an industrial zone, a business zone and a residential zone as a way to protect the living conditions of the residents from direct exposure to emissions from factories.

Air pollution remained a serious health hazard in the 1930s and 1940s during Dr. H.P. Newsholme's tenure as MOH (1927-1949). The Smoke Abatement Act of 1926 had given local inspectors more powers to fine factory owners who regularly produced excessive emissions but this had limited success. Dr. Newsholme initiated an alternative approach by implementing an educational programme to encourage the replacement of boilers or to teach stokers how to achieve more efficient combustion and less smoke emissions and these measures had a significant impact on local factories. However, overall levels of air pollution continued to get worse because of an increase in domestic coal burning smoke emissions, and domestic emissions were not covered by the smoke abatement act.

The infamous London fog of 1952 is widely regarded as a key event which acted as a driver of change in public and political perception of the scale of the health problem created by air pollution. In his 1952 annual report, Dr Matthew Burn, the fourth MOH for Birmingham (1950-1960), noted that the London fog has caused significant deaths. New research had demonstrated the relationship between smog and deaths due to bronchitis and pneumonia and this resulted in new data being collected in Birmingham on the number of deaths arising from bronchitis and pneumonia.

Dr E M L Millar was the last MOH for Birmingham, between 1960 and 1974, before the organizational changes that moved responsibility for public health into the NHS. Dr Millar set the aim of making Birmingham 'smoke-free' by the end of the 1970s and he oversaw an intensive work programme towards achieving this. This included seeking to change the type of fuel used by local businesses and houses from coal to smokeless fuels, such as oil and gas. The Clean Air Act of 1956 led to the introduction of 'smoke control areas', in which only smokeless fuels could be burned and Dr. Millar worked hard to expand this programme across Birmingham during his tenure. The public health department undertook a large successful campaign to inform people about the benefits of smoke free areas and encourage them to change appliances to smokeless ones. By 1968, 30% of the city was covered and by 1973, 70% of the city was in a smoke control area. Dr. Millar also oversaw and initiated several other major projects including installing in 1966 the first municipal incinerator in the UK to be equipped with highly efficient electrostatic grit and dust arrestors for flue gas cleaning and, in 1971, setting up a very substantial, internationally leading, programme for the monitoring of environmental contamination by lead. These actions led to significant improvements in air quality between 1961-1972.

The discovery of acid rain effects in Scandinavia in the late 1960s moved the scientific and the political attention away from the health effects of air pollution for some time. However, evidence that has emerged since the 1990s has now

shown clearly that serious negative human health effects arise from pollutants at much smaller concentrations than had previously been implicated. Human health has, once again, been the primary focus for the control of air pollution since the late 1990s and clean air legislation in Europe, North America, Japan and other developed countries targets both ambient levels and emission sources.

The major source of air pollution in recent decades has been the fumes from petrol and diesel vehicles on the roads. Dr. Phillips during his tenure from 2012 to 2017 drew particular attention to the way Birmingham is dominated by road traffic and the high levels of air pollution that has resulted. EU legislation meant Birmingham had to respond to this source of air pollution and the design of a CAZ (Clean Air Zone) was undertaken.

The current UK approach to air quality management is outlined in its National Air Quality Strategy, first developed in 1997. Established into UK law are key objectives for reducing concentrations of a number of air pollutants including PM10 (particulate matter with diameters less than 10 micro meters), PM2.5 (particulate matter with diameters less than 2.5 micro meters), NO2, Ozone, SO2, CO, and a number of metals. A component part of this Air Quality Strategy is Local Air Quality Management whereby local authorities are required to assess the air quality in their area. In 2021, the City introduced a Clean Air Zone and a wider clean air strategy was published in January 2022. This strategy aims to encourage a greater understanding of the types of air pollution, its sources, greater collaboration between the Council and other significant stakeholders in the city and to embed key priorities around improving air quality into the Council's decision-making processes.

Meeting the Challenge of Tuberculosis

Tuberculosis (TB) is a contagious, infectious disease, due to Mycobacterium tuberculosis (MT). The industrial revolution created an optimal environment for the spread of TB. During Dr. Hill's time as Medical Officer for Health from 1872 to 1903, the annual reports provide related statistics on phthisis, consumption or constitutional diseases. In some of his later annual reports Dr. Hill noted increasing trends in the number of deaths arising.

TB became a notifiable disease in 1912. In 1913 about 10% of all deaths in Birmingham were due to the disease and more attention was paid to developing strategies to deal with TB. Sir John Robertson urged the council to ban spitting in public places and, in a departure from the way the disease was being treated elsewhere, he sought to isolate people suspected of having TB as quickly as possible to avoid it spreading. He was aware that a programme of fresh air, good meals and rest was the best way of helping people survive the disease and he set up a procedure to provide that form of treatment. In 1916, he opened a clinic on Broad Street in Birmingham specifically to deal with those patients with suspected tuberculosis. Sir John also recognised that children could catch tuberculosis from contaminated milk and any cows that tested positive for the bovine form of tuberculosis were immediately destroyed. Some of the strategies that were developed in Birmingham during this period differed from the traditional approaches to treating TB but they proved successful in reducing the levels of TB in the population.

Dr. Newsholme noted in his 1938 annual report that Pulmonary Tuberculosis remained a cause of concern with all the measures established by Sir John Robertson still in place, for example, the isolation of patients in sanatoria. A new form of treatment was also introduced with some degree of success. This was the introduction of light clinics in which the patient was exposed to bright light which had been shown to improve the body's defenses against the infection.

These measures all gradually began to have an impact on the death rate from tuberculosis. Between 1928 and 1937 the average death rate from pulmonary tuberculosis was 825, between 1939 and 1948 it was 711 and in 1949 it was 595. Deaths from tuberculosis had fallen to a new low of 88 by 1960 reflecting a gradual reduction every year since 1947. These improvements can be attributed

to a number of factors including the introduction of the bcg vaccine, the advent of modern chemotherapies, less overcrowding in the city, the process of early identification of the disease adopted by the Chest Clinic and the treatments in sanitoria being more successful.

During the 1960's it became a common belief that TB had been conquered and was a disease of the past. However, a resurgence of TB in the 1980s was recorded in many parts of the industrialised world. The incidence of TB in the UK increased at an average rate of 1.9%/year between 1980 and 2012 but has since resumed its decline in England. However, the future trajectory is presently uncertain and in order to maintain this reduction a Collaborative TB Strategy for England was drawn up in line with a World Health Organisation framework towards TB elimination developed for low incidence countries.

Promoting Healthy Lifestyles

Infectious diseases were the main causes of death in the nineteenth century and early part of the twentieth century. During that period, the majority of deaths occurred in infants and children. By the early 1970s the main causes of death were non-communicable, or chronic, diseases, including heart disease, cancer and cerebro-vascular disease and the majority of deaths occurred in people aged 65 and over. Rates of heart disease and lung cancer in Birmingham had risen sharply after about 1940, as they did nationally, and accounted for around half of all deaths in Birmingham at its peak in the 1960s and 1970s. In the early 1970s, research was conclusively showing the relationship between smoking and coronary heart disease and lung cancer. To tackle the increasing rise of behavioural and lifestyle related diseases the Birmingham public health department's priorities and activities became increasingly focused on encouraging healthier lifestyles through health education and fostering individual responsibilities, building well upon over twenty years of experience gained through various local programmes that had been undertaken.

Well ahead of the national focus and policies on lifestyle interventions that grew after publication of the Cohen report in 1964, Birmingham had begun to pioneer health promotion programmes with a series of lectures in 1947. In the years after 1947, Birmingham made considerable progress in this field, with the public health division running a range of programmes using a wide variety of local places to communicate health education. This included using health centres, community groups, GP practices, schools, colleges, dance venues, buses, fire stations and mass media. Experience was also gained from using a variety of channels such as lectures, exhibitions, factsheets, leaflets, posters, and mass communications (TV, radio, newspapers). These programmes covered many lifestyle related issues including physical activity, cardiovascular disease, smoking, cancer, substance abuse, nutrition and diet, clean air and smog (to encourage smokeless fuel usage), immunizations, mental health, dental health, venereal diseases, and family planning.

The learning from the range of activity undertaken since 1947 was drawn upon to inform the successful promotion of clean air during Dr. Millar's tenure in the 1960s and this then led onto similar approaches being developed for other areas including, for example, to deliver information about the causes of cancer and how it could be prevented. Many of these initiatives were developed and delivered with several partners such as the Queen Elizabeth Hospital and the University of Birmingham. The public health division also paid particular attention to developing ways of more effectively communicating with non-English speaking immigrants through a number of measures including holding lectures in different languages, producing a range of translations of publicity materials and involving interpreters.

This focus on health promotion continued throughout the twentieth century. As more research evidence increasingly pointed to the importance of physical activity, diet and smoking, this has highlighted further how these all play a significant role in relation to increased risks of, for example, heart and circulatory diseases

(cardiovascular diseases (CVD)), cancer and obesity. Despite some improvements since the 1960s, coronary heart disease and stroke remained as two of the top five causes of death in the UK in 2021, with cancer and COPD in the top ten. Intensive research in the latter part of the twentieth century, and in the first two decades of the twenty first century, clearly pointed to risk factors for CVD which include hypertension, diabetes, high cholesterol, air pollution, smoking, being overweight or obese, lack of adequate exercise, poor diet and ethnicity. Similarly, a greater understanding of the causes of cancer have also highlighted the importance of many of the same risk factors such as smoking, excessive weight and alcohol usage, poor diet and physical inactivity.

During the period when the responsibility for public health transferred to District Health Authorities (1974-1996), responsibility for public health was spread across several districts covering Birmingham. Over this period, an increased focus was given to issues such as smoking and promoting physical activity and some of these topics were subject to action jointly undertaken by the District Directors of Public Health at the time. There were high rates of smoking in the older working class estates in Birmingham and many of the immigrant communities also brought high rates of smoking with all the consequences for poor health. Strong evidence was also emerging from a range of research showing the dangers of secondary smoking and the Directors of Public Health pressed to have smoking banned in hospitals and in other health care settings. They also worked jointly with the Medical Officer of Environmental Health, a role that had remained in the Council, to set up the Smoke-Free Birmingham Alliance to publicise the dangers of smoking and to promote the banning of smoking in public places. There was a city-wide campaign of posters and presentations at sporting events to reach as many people as possible. The result was a significant drop in smoking and the Birmingham Alliance was mentioned in the subsequent White Paper 'Smoking Kills' in which the government took up the campaign. In many parts of the community and many age groups there was evidence that low levels of physical activity was contributing to high levels of obesity and poor health. In another multi-agency initiative, the Public Health Directors worked with The Birmingham City Medical Officer of Environmental Health and the city planning agencies on Walk 2000, to construct walking routes through parks in the city.

In 1996, the existing District Health Authorities were replaced with two District Health Authorities for the whole of Birmingham. After the Government appointed the first Minister for Public Health in 1997, and the publication in 1998 of the Acheson Report, Health Inequalities became a major focus for central Government Policy and for more local action. As part of Local Area Agreements, cities received funding to pursue systematic programmes to address major national targets to improve community health and Birmingham received funding to address two national targets: improving life expectancy and improving infant mortality.

Following a further reorganisation and the setting up of Primary Care Trusts (PCT) in 2002, a range of healthy living activities formed a part of the programme of activities that the relevant Birmingham PCTs were engaged in up until 2012. These included programmes to improve health outcomes for children, reduce smoking, reduce obesity, promote positive mental health, reduce the incidence of teenage pregnancy, reduce the rate of infant mortality, improve male life expectancy and prevent cancer.

Some of the specific programmes undertaken during this period included:

- The National 'Healthy School' programme:
- Villa Vitality: working with Aston Villa Football Club seeking to address childhood obesity
- 'Call to Quit': a phone line for those seeking to stop smoking

- ‘Size Down’: a free six-week weight loss group run by local food health advisors.
- ‘Everyday People’: a Birmingham city-wide mental health promotion strategy;
- ‘Well Employers’; providing training and support for employers to manage workplace stress issues
- ‘Well Communities’: to promote healthy physical activity in the most deprived neighbourhoods.
- Setting up a mobile health screening unit in the more deprived wards offering lifestyle checks and health advice
- ‘the Heart MOT’: a CVD screening service for patients not previously screened to identify ‘new’ patients and signpost them to be considered for treatment by their GP.
- ‘Food Net’: seeking to identify barriers to healthy eating and the action needed to help overcome them in deprived areas.
- A Patient Self-Management Programme: provided courses to help people develop self-management skills.
- A number of projects to promote healthy lifestyles and tackle health inequalities in Sparkbrook Ward
- Walk 2000 programme: in Soho ward to encourage individuals and groups to take more physical exercise.

The 2012 Health and Social Care act dissolved PCTs and replaced them with GP-led Clinical Commissioning Groups (CCGs) and responsibility for public health returned to local authorities. Dr. Adrian Phillips became Director of Public Health for Birmingham in 2012. Over the next few years, Dr Phillips gave priority to healthy living issues, taking a robust line in relation to a number of topics including air pollution, childhood obesity, excessive alcohol consumption, and aspects of city design that influenced the number of green spaces and access to environments that encouraged physical activity.

Since taking up the post of Director of Public Health in Birmingham in 2019, Dr Varney has placed considerable importance on public health interventions aimed at bringing about healthy behaviour changes including strategies for encouraging greater physical activity and reducing levels of smoking and substance abuse. These formed the basis for one of four identified priority areas set out in a green paper issued at the start of his tenure in early 2019. Although taking forward this priority was hindered during much of 2020 and 2021 due to the emergency measures required to deal with Covid-19, healthy lifestyle related initiatives are once again central to present and future planned activities of Birmingham’s public health division.

Maternity and Child Care: Developing the Roles of Health Visitors and Midwives

High rates of child mortality were a major concern throughout the second half of the 1800s in Birmingham, as in most cities. Towards the end of his tenure, Dr Hill succeeded in pressing for the creation of a team of Health Visitors to be established in order to help give infants a better start in life. By 1899 such a team began visiting new mothers in the densely populated parts of the city to show

mothers of children under four the best ways of clothing and feeding their infants, to highlight cases of disease and as far as possible to highlight to residents the best ways to clean and feed themselves. Much of their work was centred around the care of infants.

The high rate of infant mortality, especially in the central wards, remained a major concern throughout the period that Sir John Robertson was MOH. Sir John followed Dr. Hill's policy of deploying a team of health visitors to educate new mothers in the care and cleanliness of their babies and he extended the facilities available to new mothers by setting up health centres that specially provided nourishment and education to pregnant women / new infants and new mothers. These centres educated the women in cooking, cleansing, sewing and good husbandry. Additionally, from 1916 they employed on a part time basis women doctors to check on the health of the mother and the child.

In his annual report of 1920 Sir John reported that over the period from 1873 to 1920 there had been a decline in infant mortality from 182 deaths per thousand of under one-year olds in 1873 to 83 per thousand in 1920. He highlighted that from 1900-1920, infant mortality in Birmingham had been reduced by 50% and that in comparison with the eight largest towns in the UK (excluding London) Birmingham was second only to Bristol in having the lowest infant mortality rate. Sir John attributed the improvement largely to the educational programme that had been sustained through the years (85% of new mothers now received a visit from the Health Visitors team). As he reported, educational programmes take time to have an influence but they were now seeing positive outcomes.

However, in his 1920 Annual Report, Sir John also highlighted that the gain had been in infants after their first month of life. The figures for the birth period and immediately afterwards had remained high and they identified as a major cause of concern the care being given to the expectant mother in the final period of pregnancy and during the birth process. Responsibility for the care of expectant mothers during this period was in the hands of a team of midwives, most of whom had no medical training. Dr Hill appointed the first medically trained midwife in Birmingham in 1899 three years before The Midwives Act of 1902, which came into force in 1904, recognised midwifery as a profession and proposed that practising midwives should have medical training. Sir John took early action to remove midwives with poor records from the registered list and he started a course at the University of Birmingham for nurses to train as midwives prior to later revisions of the Act. The course became very popular attracting recruits from across the country.

A series of additional Midwives Acts followed the 1902 Act. These were passed in 1918, 1926 and 1936 and they provided stricter guidance in assuring that only qualified midwives were able to attend births. One of the outcomes of the fourth Act in 1936 was to lay a foundation for a significant change to the working lives of midwives. The Local Supervising Authorities in England and Wales became responsible for providing a salaried domiciliary midwifery service. For the first time, midwives supporting women in their homes received a regular income, planned off duty, annual leave and financial security. The 1936 Act prohibited all unqualified midwives from practicing and training courses for nurses were established in the maternity hospitals in Birmingham that led to them obtaining the Central Midwives Board Certificate.

Maternity and child welfare remained a priority during the 1930s and 1940s and in his 1949 Annual report, Dr. Newsholme very positively highlighted the leading role that Birmingham had established in the field. He considered that the maternity and child welfare services of the city could be claimed to be the premier maternity and child welfare service in the country.

Immunising Against Diphtheria

Diphtheria was first clinically recognized in England in the late 1850s but it's identity and nature was a source of confusion and argument within the medical profession until Edwin Klebs identified in 1883 the bacterium causing diphtheria (Corynebacterium diphtheria) and Friedrich Loeffler cultivated the bacteria in 1884 to show the link with diphtheria. Despite this uncertainty, Dr. Hill listed diphtheria

as one of the seven zymotic diseases that were included in his annual reports and the following, taken from his 1880 annual report, highlights some of the difficulties in the precise quantification of diphtheria at that time:

Like Typhoid Fever, it has undergone a remarkable and progressive, if not quite so rapid, diminution, having fallen in eight years in Birmingham from 0.31 to 0.13 per 1,000. Since 1873, the death rates from this disease have been annually as follows:

Year	1873	1874	1875	1876	1877	1878	1879	1880
Death Rate	0.31	0.21	0.16	0.16	0.14	0.22	0.18	0.13

The years 1878 and 1879, appear to present an interference with the regularity of the decline, but my explanation of this interruption is that scarlet fever was severely epidemic at that period, and owing to the sore throat of the disease, being frequently taken for that of diphtheria, it was set down as such.
Until a vaccine for diphtheria was available, however, this drop did not continue and diphtheria remained a common childhood illness which killed an average of 3,500 children a year in the UK. Dr. Hill reported an average death rate from diphtheria in Birmingham of about 0.26 per 1,000 between the years 1893 and 1902 and in 1926 Sir John Robertson reported an average death rate of around 0.13 between the years 1916 and 1925.

Following on from the work of Klebs and Loeffler a vaccine for diphtheria was finally made available in the early 1920s but it only became more widely used in the 1930s and then more routinely used in England in the 1940s after being offered free to children from 1940 onwards. Contrary to considerable levels of resistance against diphtheria vaccinations in some parts of England, and from some local authorities, Birmingham made good progress towards obtaining high levels of vaccine uptake after 1927. Dr. Newsholme noted in his 1938 annual report that cases of diphtheria had killed an average of 68 people a year between 1928 and 1937 and that they had undertaken an intensive campaign to immunize the children of Birmingham. In his 1949 annual report he saluted this pioneering programme that had begun in 1927 and had immunized between 20,000 and 25,000 children per year until, by 1949, 70% of children had been immunized. Quoting from this report, Dr Newsholme highlights the important and leading contribution made by the Birmingham public health team through these activities:

> *Birmingham has been a pioneer in, and one of the most successful exponents in the country, of diphtheria immunisation.*

At the end of the 1950s, the MOH Dr Matthew Burn reported that the immunisation of children against diphtheria continued every year and there were no deaths for three years in succession at the end of the 1950s. By the 1960s and early 1970s deaths rates from zymotic diseases including diphtheria had largely been brought under control through successful vaccination and health education programmes.

Fluoridation of the Water Supply

Drinking water fluoridation is a controversial public health intervention, the benefits and harms of which have been debated since its introduction in the USA in the 1950s. Fluorine, a corrosive pale yellow gas, was discovered in 1886. It is highly reactive, and is usually found in soil, air, food, and water as fluorides. The impact of fluorine on human teeth was recognised in 1909 in Colorado, USA, when two dental surgeons were investigating the causes of mottled teeth (fluorosis). Later research in the USA and in the UK in the 1930s showed that fluoride levels in water were related to both the staining of teeth and also to reduced decay levels. The so-called "21-City Study", in the USA, published in 1942, established that mottling of the teeth was extremely rare at fluoride levels of 1ppm or below, while the greater part of the caries preventive effect was to be seen at 1ppm.

There are many areas in England which have significant natural fluoride content in drinking water including in the counties of Essex, Lincolnshire, Norfolk, Suffolk,

Durham, Shropshire, and Wiltshire. As evidence emerged during the 1930s and 1940s of the potential benefits of fluoridation, pilot schemes were implemented to artificially increase fluoride levels in drinking water in low-fluoride areas. A number of pilot schemes were introduced in the USA from 1945 onwards and in the UK three sites were selected for initial fluoridation schemes in 1955. These were; Watford, Kilmarnock and part of Anglesey. Three control areas were also selected; Sutton, Ayr and the remaining part of Anglesey. Studies carried out after 5 years of fluoridation demonstrated much lower caries levels in the fluoridated areas in 5-year old children. Informed by this research, the Ministry of Health published in 1962 a report evidencing the benefits of fluoridated water on children's dental cavities and local authorities were invited to implement fluoridation. Following the advice of the then Medical Officer for Health, Dr Millar, Birmingham's Health Committee recommended to the City Council that fluoride be introduced into the City's drinking water supply, and the first substantive water fluoridation scheme in the UK commenced in Birmingham in 1964. Birmingham became a benchmark for the impact of fluoride on dental health, allowing evidence of impact to be gathered over the following years.

Further fluoridation schemes were introduced across the UK after that but in some areas there was considerable resistance to the introduction of fluoridation despite the World Health Organisation (WHO) adopting a resolution recommending fluoridation. This controversy has continued ever since with scientific arguments being presented for and against artificial fluoridation and many local authorities have decided against implementing fluoridation schemes in their area. Based on data published by the Office for Health Improvement and Disparities (OHID) in March 2022, approximately 70% of the population in England live in areas with low natural levels of fluoride in the drinking water (<0.2 ppm) whereas only about 10% of the population receives public drinking water served by a fluoridation scheme which aim to achieve a level of 1mg of fluoride per litre of water (1 ppm).

An independent statement from the four UK Chief Medical Officers, published in September 2021, sets out the evidence on the impact of dental decay, the evidence for the role of fluoride in improving dental health, and the evidence in relation to the impact of water fluoridation on narrowing health inequalities. This report concludes that 'on balance, there is strong scientific evidence that water fluoridation is an effective public health intervention for reducing the prevalence of tooth decay and improving dental health equality across the UK. It should be seen as a complementary strategy, not a substitute for other effective methods of increasing fluoride use.'

Training new public health staff from health visitors to PH professionals

On a number of occasions in its 175-year history the Public Health Department found it necessary to initiate training courses for people to work in public health roles.

The health visitor profession has a long legacy that can trace its beginnings back to 1862 when the first health visitor was employed in Salford. In Birmingham, drawing on the annual reports from Dr Hill, Procter[31] highlights that health lectures were being provided throughout most of the period from 1872-1893 by the Ladies` Educational Association, which later became the Ladies Association for Useful Work (LAUW). The work of this movement included the provision of health lectures to the poorer classes of Birmingham.

It would appear that, during the early stages in the 1870s, these lectures were delivered largely by individuals with some standing in the city and with a willingness to undertake philanthropic work, rather than their higher academic qualifications or even personal experience. In later years, more of these lectures were provided by medical professionals, including some by Dr. Hill himself. By the early 1890s many of the lectures seem to have been carried out by qualified medical personnel, to audiences of those wishing to teach or to work with the

31 Procter, Infant Mortality: A Study of the impact of social intervention in Birmingham 1873 to 1938, A thesis submitted to The University of Birmingham for the degree of MASTER OF PHILOSOPHY, January 2011.

poorer classes rather than as a direct method of intervention to the public. However, delivery of these public lectures declined after 1893 and there appears to have been little along these lines until the introduction of the Health Visiting Service in the City in 1899. These workers' role was primarily to promote health and to provide health education, working at the level of the infant, their family and the community

Rosen[32] suggests that nationally there was little uniformity in the qualifications required of early health visitors, with some coming from the same social class as those among whom they worked, whereas others were `ladies` with, or without, some special training. In Birmingham eighty-seven applications were received in response to the first advertisement for health visitors placed by the Health Committee in 1899, eleven short listed and four were appointed.[33] Although details on the qualifications of the four successful candidates do not seem to be available it would be reasonable to assume that the council were able to select the best qualified from a broad spectrum of applicants.

Florence Nightingale had been responsible for making a clear distinction between the work of a health visitor and the work of a nurse and was responsible for establishing the first programme of education specifically for health visitors, and for promoting its spread.

The number of health visitors working in Birmingham increased considerably over the period up to 1938, but in addition to the recruitment necessary to address the expansion of the service, there appears to have been regular need to re-place those who left.

The Royal Sanitary Institute (now Royal Society of Public Health) began overseeing qualifying courses for health visitors in 1916, with the first statutory qualification for health visiting established by the Ministry of Health in 1919. In 1925, a Ministry of Health circular laid down that health visitors must be trained nurses, holding a Midwives Certificate and have had six months training in public health work, or have undertaken a two-year health visitor training, approved by the Board of Education, together with six months hospital experience.

Birmingham City's Health Committee approached Birmingham University in 1925 to deliver training for prospective health visitors and a training course for nurses wanting to obtain a Health Visitor`s Certificate was finally established in 1928.

Health visiting became a universal statutory service in 1929, through the Local Government Act, and after 1945 nursing registration became necessary in order to practise as a health visitor.

Throughout the first half of the twentieth century, the public health department also played a major role in developing the standards of the maternity services through training programmes and through influencing national policies that resulted in significant Acts of Parliament being passed.

Between the 1930s and 1974 the public health function underwent a number of major changes, sometimes requiring rapid increases in numbers and sometimes reductions in numbers. These changes often required proactive involvement of the public health department in the development of training programmes such as training courses for nurses which were established in the maternity hospitals in Birmingham following the passing of the Midwives Act in 1936 (which prevented all unqualified midwives from practicing), in 1939, the training of volunteers for the newly-formed Civil Nursing Reserve and working with the Air Raids Precaution Officer and his staff to provide preliminary training in first aid and anti-gas measures and during the 1960 the training of inspectors about black smoke emissions as part of the aims of making Birmingham 'smoke-free.

The early years after the move into the NHS in 1974 were difficult for those responsible for public health. Funding was difficult to secure and there was a dearth of people with the skills and knowledge to do the work. Dr. Griffiths, the Director of Public Health in Central Birmingham, played a major role in building capacity through training programmes. He gradually found ways of attracting

32 Rosen, History of Public Health, p.353
33 Birmingham Health Sub-Committee Minutes (10 February 1899)

funding and established a training programme to develop staff with public health skills, and this attracted widespread attention around the country. Dr. Griffiths also had an academic role at the University of Birmingham where he was able to launch a master's programme in public health. The return of public health to local authority control also led to a loss of the skill base to undertake public health work and Dr. Phillips had to initiate a wide-ranging training programme that included specialist skill development in project management and in information management.

Understanding the Impact of Covid-19

A key responsibility of Public Health is the detection and control of infectious diseases and over the years Birmingham Public Health staff have been at the centre of major efforts to protect the public from the spread of many different diseases including smallpox, Spanish flu, diphtheria and tuberculosis. But none of the earlier challenges compared to the scale of effort required to combat Covid-19 when the pandemic swept round the world in 2020/21. In his annual report of 2021, devoted to Covid-19, Dr. Varney recorded that more people died from Covid in Birmingham than in the second world war blitz on the city.

The annual report conveys the scale of the epidemic in Birmingham. A huge testing system was rapidly introduced in the city and by 30th September 2021, 887,745 people had been tested. 159,273, over 10% of the population, tested positive for the Covid and sadly 3020 people were recorded as dying from the disease. As the first vaccines became available another major effort was launched and 681,788 first doses were given to Birmingham residents aged 16+ (67.5% of the eligible population) and 622, 731 (61.7% of the eligible population) were given second doses by 23/12/21.

Developing the testing regime, helping people follow instructions to isolate, supporting people in isolation, providing vaccinations etc required a major civic response to which many individuals and agencies contributed. It was estimated that 795 Covid Community Champions worked with 19 community engagement partners to target support to over 30 different communities.

Birmingham Public Health were at the heart of the coordination of this effort throughout the epidemic but they also had another specific role to play. Very little was known about Covid-19 as it began to sweep through the community: how it spread, who was most vulnerable, how its spread could be curtailed etc. Comprehensive data was needed on a continuous basis to determine the best strategic response. The Public Health team collected both quantitative and qualitative data to capture what was happening, including official statistics on hospitalisation etc, a Health and Wellbeing Impact Survey and detailed ethnographic case studies to record the lived experiences of Covid of selected Birmingham residents.

The data revealed a complex picture of where Covid was having the greatest impact. As national data also demonstrated, it was the elderly and those with underlying long-term conditions that were the most vulnerable to serious illness and death. However, because of the size of the Birmingham population and its complex ethnic mix, the data also revealed that its minority BAME communities were also very vulnerable. Members of the BAME community were much more likely to be infected with Covid than the white population and more likely to be seriously ill as a result. A ward-by-ward analysis also showed that the most deprived communities also had a much higher infection rate than the more prosperous wards. The data suggested that several factors were contributing to the inequality of impact. One factor was employment: a high percentage of the BAME community worked in health and social care and in hospitality, front line occupations that had a high risk of exposure to Covid. Another factor was overcrowded housing and intergenerational living that made obeying the rules to isolate difficult to abide by.

Armed with this data, major efforts were made to reach out to the most vulnerable communities, engaging with local civic and faith leaders to ensure people in the communities understood how best to protect themselves. The data on vaccination rates also showed that members of the BAME communities has lower rates of take up than the white population and further forms of engagement were employed to explain the importance of vaccination.

The research also made clear the long-term impact of Covid and again this impact was felt the hardest in the BAME communities and in the most deprived areas of the city. The education of children was more disrupted in these communities and there were stronger indications of long-term mental illness being caused, for example, by loneliness experienced in extensive periods of lockdown.

Reaching Out to Minority Communities

Public health priorities changed between the late 1940s and the 1970s, with an increased focus on chronic conditions and public health interventions aimed at encouraging healthier lifestyles. Data was increasingly collected in relation to differences in outcomes for the different ethnic communities that lived in Birmingham. For example, during Dr. Millar's tenure as MoH, between 1961 and 1974, annual reports identified infant mortality rates by the ethnicity of the parents and this helped to better target some of the health education initiatives that were undertaken.

Dr. Millar encouraged focused measures to improve the communication of messages relating to healthier lifestyles to the increasing immigrant populations in Birmingham. Interpreters were employed to translate materials into other languages and to deliver health education lectures in different languages.

After the transfer of responsibility for public health to the NHS in 1974, a number of more local initiatives were undertaken by the District Directors of Public Health to work with their minority communities. Dr. Chambers, in North Birmingham, worked with families from the Mirpur region of Pakistan to warn them of the specific genetic issues that had a link to a higher risk of infant deaths. As the shift in focus moved towards health inequalities towards the end of the 1990s, a novel approach was taken to reach the BAME communities where there was evidence of large health inequalities. Health Exchange, a Community Interest Company (CIC), was set-up outside the NHS with greater flexibility of operation and with a commitment to recruit BAME people who could provide advice and support more effectively to the BAME communities.

During the period that responsibility for public health lay with Primary Care Trusts (PCTs), between 2002 and 2012, various projects were specifically targeted towards ethnic minority groups including: Palliative Care for Minority Ethnic Groups and Cancer Care for Minority Ethnic Groups in Sparkbrook ward; the establishment of The ARCH (Asylum seekers and refugee centre for health), a dedicated health service for refugees and asylum seekers in Ladywood ward; and two projects to determine the needs of older people in black and minority ethnic communities in Small Heath Ward.

Following the return of responsibility for public health to local authorities in 2012, the focus on health inequalities has continued. The severe health disadvantages faced by Birmingham's ethnic minority communities was especially highlighted during the period that the Covid-19 epidemic dominated the attention of Dr Varney and the Public Health Division. As more robust evidence emerged during 2020 and 2021 it became clear that Birmingham residents from Black, Asian and Minority Ethnic backgrounds were impacted harder than residents from a white background, despite being a smaller part of the population. This learning has contributed to a major new focus on research to improve understanding of the factors relating to ethnic backgrounds that influence health outcomes. In partnership with Lewisham Council, Birmingham City's Public Health Division commissioned the 'Birmingham and Lewisham African Caribbean Health Inequalities Review (BLACHIR)' placing greater emphasis on listening to the 'citizen voice' as a part of the study. Using the unique opportunities for such research that the Birmingham population offers, due to the diversity of their backgrounds and the size of these sub-groups, Dr Varney has taken a lead in commissioning a number of Community Health Profiles (CHPs). These CHPs are helping to identify particular health-related issues affecting these specific community and to inform detailed engagement with the local communities on the evidence found and also to inform future community and service development.

Conclusion

There have been many highs and lows in the 175-year history of public health work in Birmingham: times when the Director of Public Health was almost devoid of staff and resources and other times when they were managing a large department and had many opportunities to collaborate with other agencies in the city to bring about important changes. Organisational changes have been the norm in every period meaning that Directors of Public Health have experienced many changes of responsibility and reporting structure. The many acts of parliament and other government actions that impacted public health over this period have also given Directors of Public Health much to cope with. New legislation has often provided the opportunity to pursue local public health priorities but it has also brought with it new requirements for assessments and reporting.

Despite the turbulence that all Directors of Public Health have experienced there is also a strong thread of stability that Birmingham public health departments have managed to sustain throughout this time. The requirement to monitor and assess public health has been at the centre of the department's activities at all times, whether that be in respect of the threat of infectious diseases or the assessment of environmental hazards. The detection of health problems moved on as the years passed to include a wide array of personal health issues, from smoking to obesity and sexual health, and to the recognition of wider determinants of health that were at the root of many endemic health issues. Another common feature of the work of all of the Directors of Public Health has been the recognition of the need to collaborate with other agencies in Birmingham to bring about change in the city. As the examples of achievement show, public health officers in Birmingham have been at the heart of change programmes of many different kinds over the years that have all contributed to the great progress made in improving the health and wellbeing of the people of the city.

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A BOLDER HEALTHIER BIRMINGHAM