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'The dangers attending these conditions are evident': Public Health and the Working Environment of Lancashire Textile Communities, c.1870–1939

Janet Greenlees*

Summary. This article examines the position of the working environment within public health priorities and as a contributor to the health of a community. Using two Lancashire textile towns (Burnley and Blackburn) as case studies and drawing on a variety of sources, it highlights how, while legislation set the industry parameters for legal enforcement of working conditions, local public health priorities were pivotal in setting codes of practice. The complexities entwined with identifying the working environment as a cause of ill health and with improving it were entangled within the local community health context. In addition, the multiple understandings of Medical Officers of Health surrounding the remit of their responsibilities impacted the local health context. These did not always parallel national regulations. Indeed, it was these local, community specific forces that set the public health agenda, determined its path and the place of the working environment within this.

Keywords: public health; Lancashire; localism; Medical Officer of Health; working environment; paternalism

While disentangling the causes and responsibilities for ill health is problematic, the working environment has rarely been incorporated into a community public health agenda unless an industry-specific disease risk is evident, such as anthrax or byssinosis. The identification of a specific disease caused by a work process both secured a place and provided a testing ground for, specific workplace regulations. Without an identifiable illness specific to an occupational process, regulation and reform were more difficult.¹ Working conditions and the atmosphere are prominent examples. Both are key contributors to individual workers' well-being and consequently, the broader health of the

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¹James Stark, 'The Factory Environment and the Regulation of Industrial Anthrax in Late-Victorian Britain', *Soc. Hist. Med.*, 2012, 25, 343–61; Ian Mortimer and Joseph Melling, 'British Government Policies for the Regulation of Anthrax Infection and the Wool Textiles Industries 1880–1939', *Textile History*, 2000, 31, 222–36; Sue Bowden and Geoffrey Tweedale,

'Mondays without Dread: The Trade Union response to Byssinosis in the Lancashire Cotton Industry in the Twentieth Century', *Soc. Hist. Med.*, 2003, 16, 79–95; Sue Bowden and Geoffrey Tweedale, 'Poisoned by the Fluff: Compensation and Litigation for Byssinosis in the Lancashire Cotton Industry', *Journal of Law & Society*, 2002, 20, 560–79.

community. Yet associated illnesses, particularly respiratory, are not singular to the working environment and can be contracted anywhere. Moreover, both the working and living environment fell within the public health remit.² Hence, local debates surrounding public health reform sometimes incorporated the working environment. Indeed, as a number of excellent studies have shown, pressure for public health reform frequently developed from local organisations and officials, especially Medical Officers of Health (MOsH).³ Furthermore, regional factors contributed to getting industrial diseases recognised and addressed.⁴ The workplace entered debates through these channels and via the Factory Inspectors and their role at enforcing state regulation. Scholars have emphasised how the state prioritised business needs over workers' health and safety and to the neglect of certain public health concerns.⁵ For the Lancashire cotton manufacturing industry this is unsurprising and reflects the view that has roots in the nineteenth century that the cotton factories were fairly safe with little attributable morbidity or mortality.⁶ Fowler has argued that cotton operatives themselves turned to the state for action on factory questions rather than seeking local reforms to dangerous or unhealthy work practices.⁷ And, well into the twentieth century British cotton textile employers were renowned for their lack of technological innovation and investment. Yet it is for these reasons, as well as the influence of the cotton manufacturing industry on early health and safety legislation and the factory inspectorate, that Lancashire cotton towns provide the ideal location for analysing how communities framed the boundaries of public health and under what circumstances the working environment was incorporated. It was because certain diseases of the factory, including tuberculosis, pneumonia and bronchitis transcended the living and working environment, that local specificities gained importance for helping define and shape the parameters of the public health remit.

This article examines the place and importance of the working environment within the local public health discourse of two leading, neighbouring, Lancashire cotton weaving towns, which manufactured similar cloth, Blackburn and Burnley. While these two towns

²For the broader environmental impact of steelmaking and employers health and safety initiatives, see David Bradley, 'Occupational Health and Safety in the Scottish Steel Industry, c. 1930–1988: The Road to "It's Own Wee Empire"' (unpublished PhD thesis, Glasgow Caledonian University, 2012).

³E.g. Joseph Melling, 'Beyond a Shadow of a Doubt? Experts, Lay Knowledge, and the Role of Radiography in the Diagnosis of Silicosis in Britain, c. 1919–1945', *Bulletin of the History of Medicine*, 2012, 84, 424–66; Bowden and Tweedale, 'Mondays without Dread'; Stark, 'Factory Environment'; Janet Greenlees, 'Stop Kissing and Steaming!': Tuberculosis and the Occupational Health Movement in Massachusetts and Lancashire, 1870–1918', *Urban History*, 2005, 32, 223–46.

⁴Geoffrey Tweedale, 'Occupational Health and the Region: The Medical and Socio-legal Dimensions of Respiratory Disease and Cancer in the Lancashire Textile Industry', in John Wilson (ed.), *King Cotton: A Tribute to Douglas Farnie* (Lancaster: Crucible, 2009), 325–41.

⁵Bowden and Tweedale, 'Mondays without Dread'; Bowden and Tweedale, 'Poisoned by the Fluff'; Tweedale, 'Occupational Health'; Terry Wyke, 'Mule Spinners' Cancer', in Alan Fowler and Terry Wyke (eds), *The Barefoot Aristocrats: A History of the Amalgamated Association of Operative Cotton Spinners* (Littleborough: George Kelsall, 1987); Arthur McIvor, 'State Intervention and Work Intensification: The Politics of Occupational Health and Safety in the British Cotton Industry, c.1880–1914', in A. Knotter, B. Altena, and D. Damsma (eds), *Labour, Social Policy and the Welfare State* (Amsterdam: Stichting beher IISG, 1997), 125–42; P. Bartrip and P. Fenn, 'Factory Fatalities and Regulation in Britain, 1878–1913', *Explorations in Economic History*, 1988, 25, 60–74; and Alan Fowler, *The Lancashire Cotton Operatives and Work, 1900–1950: A Social History of Lancashire Cotton Operatives in the Twentieth Century* (Aldershot: Ashgate, 2003), ch. 6.

⁶A. McIvor, *A History of Work in Britain, 1880–1950* (Palgrave: Basingstoke, 2001), 120, 124–5.

⁷Fowler, *Lancashire Cotton Operatives*, ch. 6.

faced similar health challenges, civic and community leaders set different health reform agendas. At certain times and under particular circumstances these incorporated the working environment. This paper argues that whether this environment was given importance in any given community-health context depended on how that community framed the boundaries of public health. These local boundaries of public health made the textile mills of some towns healthier places in which to work than elsewhere. Thus, the article moves away from occupational health histories which have focused on the regulation of industrial diseases. Rather, it integrates with public health histories which to date have emphasised a town's overall health, that of specific inhabitants, notably women and children, or the housing and sanitation conundrum. This article reveals how the importance of the working environment was closely entwined with the complex, but fluid, locally specific determinants of public health and the parameters for community public health reform.

The article first provides the broad health context of Lancashire within which the working environment gathered importance as a community public health concern. It then considers the forces that set the health agenda in Lancashire towns. Next, it turns to the case studies of Blackburn and Burnley to highlight community variations in framing the boundaries of public health and the strength of local determinants. By doing so, it extends Rosenberg's argument about framing diseases. The working environment did not become a health risk until the community agreed that it was, acknowledged it and responded to it.⁸ Several multifaceted, fluid and locally specific forces framed the public health agenda and its parameters in Lancashire.

Public health reform was not merely a matter for legislation. Simon Szreter, Brian Preston, John Welshman and others have illustrated how entangled within public health and any successful improvements to the public health of a community are the socio-economic contributors to health,⁹ the politics and economics of municipal intervention and their effect on the health of a population.¹⁰ Public health movements, working through local governments, contributed to the late nineteenth-century mortality decline.¹¹ Yet these movements have local contexts. Socioeconomic factors influenced

⁸Charles Rosenberg, 'Disease and Social Order in America: Perceptions and Expectations', *Millbank Quarterly*, suppl. 1986, 64, 34–55; and Charles Rosenberg, 'Framing Disease: Illness, Society and History', in Charles Rosenberg and Janet Golden (eds), *Framing Disease: Studies in Cultural History* (Rutgers: Rutgers University Press, 1997), xiii–xxvi.

⁹E.g. S. R. S. Szreter, 'The Importance of Social Intervention in Britain's Mortality Decline, c. 1850–1914: A Reinterpretation of the Role of Public Health', *Soc. Hist. Med.*, 1988, 1, 1–38; R. J. Woods and J. H. Woodward (eds), *Urban Disease and Mortality in Nineteenth-Century England and Wales* (New York: St. Martin's Press, 1984); John Welshman, 'The Medical Officer of Health in England and Wales, 1900–1974: Watchdog or Lapdog?' *Int. Public Health Medicine*, 1997, 19, 4, 449; G. Kearns, W. R. Lee and J. Rogers, 'The Interaction of Political and Economic Factors in the Management of Urban Public Health', in M. C. Nelson and J. Rogers (eds), *Urbanisation*

and the Epidemiologic Transition (Uppsala: Historiska institutionen, 1989); B. T. Preston, 'Rich Town, Poor Town: The Distribution of Rate-Bourne Spending Levels in the Edwardian City System', *Transactions of the Institute of British Geographers*, New Series, 1985, 10, 77–94.

¹⁰John Pickstone, *Medicine and Industrial Society: A History of Hospital Development in Manchester and its Region, 1752–1946* (Manchester: Manchester University Press, 1983); John Welshman, *Municipal Medicine: Public Health in Twentieth-Century Britain* (Bern: Peter Lang, 2000); F. Bell and R. Millward, 'Public Health Expenditures and Mortality in England and Wales, 1870–1914', *Continuity and Change*, 1998, 13, 221–49; Barry Doyle, 'The Changing Functions of Urban Government', in Martin Daunt (ed.), *The Cambridge Urban History of Britain*, 3, 1840–1950 (Cambridge: Cambridge University Press, 2000), 287–313.

¹¹Szreter, 'Importance'.

both community spending priorities and household expenditure, including health and healthcare choices. Municipal intervention and expenditure were influenced by local and national politics and the local economy. This article engages with these issues within the industrial context of Lancashire for the decades surrounding 1900 when the cotton textile industry dominated numerous local economies. Many towns experienced both economic growth and recession. Indeed, the economic dependence of some towns on cotton textiles meant that the community and workforce were sometimes synonymous. It argues that the boundaries, definitions and implementation of the local public health agenda were more important than legislation in securing improvements to the working environment. While national legislation gradually set the industry parameters for legal enforcement, these case studies reveal how communities interpreted the limitations of their public health remit. Such an analysis makes more visible the importance of community understandings of the parameters of public health.

The Setting of the Lancashire Health Agenda

Lancashire textile towns were known for their fiercely guarded local autonomy. Local health agendas were determined by specific poor health outcomes, the state of the economy and perceptions surrounding who was responsible for securing reforms. By the late nineteenth century, Lancashire towns had some of the poorest health outcomes and lowest health expenditures in Britain.¹² Around this time too, the health risks attributable to the working environment became core issues of debate at both the local and national levels. Contagious and respiratory diseases, including tuberculosis, pneumonia and bronchitis, among others, dominated Lancashire's health agenda. Prior to the First World War, Lancashire had the highest mortality rates in England and Wales, with leading cotton weaving towns at or near the top of the list (see Table 1). Moreover, the humid environment in the weaving sheds was believed to be a contributing factor to the high death rates from respiratory diseases. Consequently, in the decades surrounding 1900, the factory atmosphere became a focal point for health debates in Lancashire.

Some health hazards of the working environment were also believed essential to production. Many employers and weavers believed that a hot, humid weaving shed minimised thread breakages and was therefore necessary for efficient cloth production. Indeed, Lancashire's natural humidity aided the industry's growth in the county. This was artificially enhanced in factories, with methods evolving over the years from initially trays of water under the looms (degging) to spray, either from pipes around the sides of mills or from overhead valves—a process known as steaming. While other industries introduced higher levels of steaming, including the dye and print works, weaving attracted public and governmental attention because the steam was contained in the buildings with very little ventilation.

The health risks attributable to steaming first came under public scrutiny in 1871 when Todmorden weavers complained to Parliament about sizing, a kind of glue used to stiffen thread and cloth. Its composition, combined with the lack of ventilation and the practice

¹²Alysa Levene et al., *Cradle to Grave: Municipal Medicine in Interwar England and Wales* (Oxford: Peter Lang, 2011), esp. chs 2 and 4.

Table 1. Death rate per 1,000 population in Blackburn and Burnley, as compared with England and Wales, 1880–1914

Town	1880–89	1890–99	1900–09	1910–15
Blackburn	21.3	20.8	17.3	15.0
Burnley	21.6	20.9	18.3	16.3
England and Wales	19.5	18.3	15.9	13.8

Sources: Adapted from Derek Beattie, *Blackburn The Development of a Lancashire Cotton Town* (Blackburn: Ryburn, 1992), 67; Alan Fowler, *The Lancashire Cotton Operatives and Work, 1900–1950: A Social History of Lancashire Cotton Operatives in the Twentieth Century* (Aldershot: Ashgate, 2003), 51; *Table of Health Statistics by Preston Sanitary Association*, 1885, as cited in Nigel Morgan, *Deadly Dwellings: The Shocking Story of Housing and Public Health in a Lancashire Cotton Town, Preston from 1840–1914* (Preston: Mullion Books, 1993), 105; Geoffrey Trodd, 'Political Change and the Working Class in Blackburn and Burnley, 1880–1914' (Unpublished PhD Thesis, Lancaster University, 1978), 236; Blackburn *Medical Officer of Health Reports*, various years; Burnley *Medical Officer of Health Reports*, various years.

of steaming, raised concerns about weavers' respiratory health.¹³ In 1884, this prompted the factory inspectorate to claim that: 'We cannot doubt that during frosty winter afternoons when steam jets have been for hours in full operation and when the products of gas combustion have been added to the exhalations from the lungs of workpeople, the atmosphere of a weaving shed must be in a high degree injurious to constitutions predisposed to pulmonary disease or dyspepsia.'¹⁴ For the next sixty years, appropriate heat and humidity levels and ventilation requirements were regularly and forcefully debated by employers, workers, Factory Inspectors and the Home Office, resulting in government investigations and legislation setting permissible limits.¹⁵ The debates surrounding appropriate atmospheric conditions ended in 1928 after two successive Home Office Reports effectively 'proved' that steaming was not harmful to operatives' health.¹⁶ Nevertheless, these debates about steaming and ventilation reveal more about the defensive squabbles and attempts at 'one-upmanship' between employers, trade unions, the Factory Inspectorate and the Home Office,¹⁷ than they do about local business practices. Nor do they provide insight into why towns with the commonality of disease burdens and outcomes held different understandings of the importance of the working environment to the broader public health agenda.

¹³J. Buchanan, *Report by Dr Buchanan on Certain Sizing Processes used in the Cotton Manufacture at Todmorden, and on Their Influence upon Health* PP [Cd (203)], LIV, 63, (London: HMSO, 1872).

¹⁴J. H. Bridges and E. H. Osborn, *Report on the Effects of Heavy Sizing in Cotton Weaving Upon the Health of the Operatives Employed* PP [Cd (3861)] LXXII (London: HMSO, 1884), 8.

¹⁵Eg. Bridges and Osborn, *Report*; H. E. Roscoe, *Report of a Committee Appointed to Inquire into the Working of the Cotton Cloth Factories Act* PP [Cd (8348)] (London: HMSO, 1897), xvii and Evidence, PP [Cd (8340)], (London, HMSO: 1897), xvii; F. Scudder, *Report on Air Tests in Humid Cotton Weaving Sheds* PP [Cd (2135), X, 629], (London:

HMSO, 1904); H. Freer-Smith, *Departmental Committee on Humidity and Ventilation in Cotton Weaving Sheds*, Report PP [Cd (4484)] XV, 635], (London: HMSO, 1909); A. Bradford Hill, *Artificial Humidification in the Cotton Weaving Industry. Its Effects upon the Sickness Rates of Weaving Operatives* (IHRB Report, 48), (London: HMSO, 1927); J. Jackson (Chair), *Home Office Report of the Departmental Committee on Artificial Humidity in Cotton Cloth Factories* (London: HMSO, 1928).

¹⁶Bradford Hill, *Artificial Humidification*; Jackson, *Home Office Report*.

¹⁷For discussion of the government debates, see Fowler, *Lancashire Cotton Operatives*, ch. 6, esp. 148–66.

Broadly speaking, in Britain, public health reforms were the responsibility of town councils, with only sporadic, indirect involvement from central government. During the nineteenth century, the local business elite dominated Lancashire town councils and helped set the public health agenda. Local business traditions were also pivotal determinants of medical philanthropy, especially the extent and nature of hospital provision.¹⁸ Moreover, most local authorities were reluctant to regulate their own cotton industry in case this provided economic advantages to neighbouring towns. At the same time, local accountability contributed to variations in health priorities and reform initiatives, within which the MOH (Medical Officer of Health) played a key role.¹⁹

After the Public Health Act of 1872, towns were required to employ an MOH who was meant to be independent of council pressures. At the same time, he was directly responsible to the local council and had to adhere to council priorities. This could hamper reforms and placed the MOH at the bottom of the medical status hierarchy.²⁰ The MOH early remit centred on public health and sanitation and advising local authorities on priorities and strategies for improving the health of their town. Their power grew as public health became increasingly medicalised and peaked in the first half of the twentieth century. The MOH now also tackled infectious diseases, especially tuberculosis and sexually-transmitted diseases, food safety and pest control and oversaw welfare programmes designed to improve the health of mothers and children. As Gorsky and Welshman have demonstrated, this was a broad, challenging and changing remit and the successes of the MOH were mixed.²¹ The MOH both pursued local initiatives and took their concerns to the state for action. As Tables 2 and 3 highlight, Lancashire death rates, particularly those of infants, as well as the rates of infectious diseases remained amongst the highest in Britain up to the Second World War. With such problems, the workplace was never a top priority for Lancashire town councils, their MOH or the state. Moreover, the state sought to balance health concerns with national economic priorities, particularly the vital role that the cotton industry played within this. The lack of industry wide policy innovation meant that the latter dominated political decision making.

Although many Lancashire cotton towns specialised in producing certain types of cloth, business strategy and operational decisions remained firm specific.²² Nevertheless, a town's mill owners and managers also discussed best practice, often through the local employers' associations. Originally formed to try and protect and maximise profit margins, the Lancashire textile employers' organisations also defended and promoted the employers' right to conduct work as they saw fit.²³ While these associations addressed

¹⁸Pickstone, *Medicine*, 140–5.

¹⁹Greenlees, 'Stop Kissing', 229–33.

²⁰*Ibid.*

²¹Martin Gorsky, 'Local Leadership in Public Health: The Role of the Medical Officers of Health in Britain, 1872–1974', *Journal of Epidemiological Community Health*, 2007, 61, 468–72; Welshman, 'Medical Officer.

²²E.g. M. W. Kirby, 'The Lancashire Cotton Industry in the Inter-War Years: A Study of Organisational Change', *Business History*, 1974, 16, 145–59; Steve

Toms, 'Windows of Opportunity in the Textile Industry: The Business Strategies of Lancashire Entrepreneurs, 1880–1914', *Business History*, 1998, 40, 1–25; Geoff Timmins, *Made in Lancashire: A History of Regional Industrialisation* (Manchester: Manchester University Press, 1998).

²³Arthur Mclvor, 'Cotton Employers' Organisations and Labour Relations, 1890–1939', in J. A. Jowitt and A. J. Mclvor (eds), *Employers and Labour in the English Textile Industries, 1850–1939* (London: Routledge, 1988), 20.

Table 2. Death rate per 1,000 population in Blackburn and Burnley, as compared with England and Wales, 1920–39

	1920–24	1925–29	1930–34	1935–39
Blackburn	13.65	13.76	13.40	14.83
Burnley	15.46	15.54	13.66	15.00
England & Wales	12.2	12.22	11.96	11.98

Sources: Blackburn *Medical Officer of Health Reports*, various years; Burnley *Medical Officer of Health Reports*, various years.

Table 3. Infant mortality rates in Lancashire towns and England and Wales, 1921–30

	1921–25	1926–30	1931–35
Blackburn	98	83	64
Bolton	91	82	68
Burnley	113	91	77
Bury	85	79	68
Preston	107	94	81
Rochdale	86	78	78
(Average)	97	84	73
England & Wales	76	68	62

Sources: The Registrar General's Annual Reports, 1921–30; cited in, and adapted from, Elizabeth Roberts, *A Woman's Place: An Oral History of Working-Class Women, 1890–1940* (Oxford: Basil Blackwell, 1984), 168; *Annual Report of the Medical Officer of Health for Burnley*, 1936, 162.

issues universal to the industry, they remained locally discussed and determined. There was no strong, umbrella textile employers' organisation in Lancashire or even employers engaged in the manufacture of similar goods or a particular process, such as spinning or weaving. Local production specificities and peculiarities prevented this. Local business traditions, practices and priorities superseded broader industrial interests, while creating variations in the working environment.

Workers also contributed to setting the local and national health agenda. The textile industries were highly unionised with sophisticated local bargaining systems. Throughout Lancashire, workers and their unions protested many health risks at work, including fatigue, the heat and humidity, shuttle-kissing, longer hours, more looms, dust and, later, the carcinogenic oils used on spinning mules.²⁴ Yet unions had to balance reforming the working environment with other concerns, particularly wages and, during economic downturns, jobs.²⁵ Consequently, workers' interest in changing their working environment was inconsistent, localised and sporadic.

²⁴E.g. Pamela Dale, Janet Greenlees and Joseph Melling, 'The Kiss of Death or a Flight of Fancy?: Workers' Health and the Press in the Campaign to Regulate Shuttle Kissing in the British Cotton Industry, c. 1900–1946', *Social History*, 2007, 32, 54–75; Greenlees, 'Stop Kissing'; Wyke, 'Mule Spinners' Cancer'; Bowden and Tweedale, 'Mondays without

Dread'; Bowden and Tweedale, 'Poisoned by the Fluff'; and Tweedale, 'Occupational Health'.

²⁵For an industrial parallel, see Ronald Johnston and Arthur McIvor, *Lethal Work: A History of the Asbestos Tragedy in Scotland* (Edinburgh: Tuckwell Press, 2000).

The combined factors of minimal legislation, local peculiarities, the individual and distinctive nature of cotton manufacturers, and workers' priorities make it difficult to arrive at a conclusion as to *the* leading influence on determining the workplace environment at any given time. Instead, it is better to comment on the different forces involved in changing that environment and the process itself in different towns. The distinctive features in one town that influenced mill managers' approach to the workplace environment had less impact elsewhere due to other driving forces.²⁶

Blackburn and Burnley held industrial similarities but political differences. Both towns were key producers of cheap cloth primarily for export to India and the Far East. Weaving dominated the local economies of both the towns, although coal mining provided limited alternative employment for men in Burnley.²⁷ From the late nineteenth century through the interwar years, Blackburn remained overwhelmingly Tory, with citizens removing any candidates with socialist leanings shortly thereafter.²⁸ One political party held less dominance in Burnley. From the mid-nineteenth century through to the Second World War, MPs were primarily a mixture of Liberals and either Conservatives or Socialists, with the Liberals tending to dominate local government.²⁹ The business leaders in the two towns' local governments varied from the 'open-handed and socially concerned to the tight-fisted' and narrow minded.³⁰ Moreover, despite a strong presence on the town councils, cotton masters and their priorities did not always dominate decisions. Local political pressures, work cultures and industrial relations contributed to setting health priorities in the factories and helped determine their importance within the local public health agenda.

These industrial similarities and political and social differences make Blackburn and Burnley ideal case studies for examining if, and if so, under what circumstances, the working environment gained importance within the local health context. The towns' faced similar industrial health concerns, yet the political, medical and business contexts were sufficiently different to allow analysis of the importance of local specificities in setting the boundaries of public health responsibility.

The Rise and Fall of Blackburn's Working Environment

By the end of the nineteenth century, Blackburn was the cotton weaving capital of the world. By the First World War, the town peaked in terms of both population and industrial output.³¹ Yet the town had an almost self-inflicted isolation from neighbouring

²⁶For a related American argument, see Janet Greenlees, 'Technological Change and Environmental Inequalities: The New England Textile Industry, 1880–1930', in G. Massard-Guilbaud and R. Rodger (eds), *Environmental and Social Justice in the City: Historical Perspectives* (White Horse Press, 2011), 249–70.

²⁷Less than one-tenth of men in Burnley worked in coal mining in 1921. Rex Pope, *Unemployment and the Lancashire Weaving Area, 1920–1938* (Preston: University of Central Lancashire, Harris Paper Three, 2000), 2–3.

²⁸Derek Beattie, *Blackburn: The Development of a Lancashire Cotton Town* (Blackburn: Ryburn, 1992), 150–3.

²⁹For more on the towns' politics, see, Joseph White, *The Limits of Trade Union Militancy: The Lancashire Textile Workers, 1910–1914* (London: Greenwood Press, 1978), 152–67; Alice Russell, *Political Stability in Later Victorian England: A Sociological Analysis and Interpretation* (Sussex: The Book Guild, 1992), esp. ch. 2. For the election results for 1868–1924, see 290–92; Beattie, *Blackburn*, ch. 3.

³⁰John Walton, *Lancashire: A Social History, 1558–1939* (Manchester: Manchester University Press, 1987), ch. 11, esp. 231.

³¹Beattie, *Blackburn*, 15.

communities.³² The town council sought to address local problems with local solutions.³³ This isolation and community cohesion was reflected in the structure of textile work in the town. After the Preston lockout of the 1850s, the Blackburn Weavers formed their own association rather than joining with Burnley, Preston and Stockport.³⁴ The Blackburn Masters chose to live amongst their workers rather than moving to the remote countryside.³⁵ They paid higher wages than their counterparts in Burnley and Preston and adopted a form of paternalism that suited both their political and business interests.

The dual motivation behind Blackburn employers' benevolence modifies arguments about nineteenth-century paternalism, where individual employers, including Titus Salt and Robert Owen, directed their benevolence at aiding industry—first by securing a workforce by providing housing and community amenities and later by reconciling men and women to the industrial world.³⁶ Employers' benevolence in Blackburn was more comprehensive. In the late nineteenth century, Blackburn's employers collectively provided workers' housing and financed schools, churches and even pubs. They also led the industry in financing community health provision, being the major financial contributors behind the building of the modern, pavilion style Blackburn Infirmary.³⁷ However, such comprehensive benevolence also contributed to Blackburn's insular nature. In return for such amenities, workers' political affiliation was expected to reflect that of their employers, and to a great extent, it did.³⁸ Whether or not it was these philanthropic investments that won the respect, devotion and loyalty of the working classes is unclear, but the workers seem to have accepted the hierarchical society in the town and labour unrest was rare.³⁹

By the early twentieth century, employer paternalism in Blackburn declined. Amalgamations and takeovers amongst the cotton firms diminished the numbers of cotton masters who could contribute to paternalistic endeavours. Furthermore, the family firms that had characterized the town were becoming limited public companies. These larger firms brought increased layers of management, new directors and shareholders, which widened the gap between workers and the remaining cotton masters.⁴⁰ Yet somewhat surprisingly, the good relations between workers and employers remained. Furthermore, while some of the working classes fled to Labour, the conservative politics that the nineteenth-century masters had engrained in the workers remained throughout the inter-war period.⁴¹ Combined, community cohesion and the economic, social and political dominance of cotton weaving to the town throughout the period meant that Blackburn

³²*Ibid.*, 41.

³³Walton, *Lancashire*, 231–32 and Trodd, 'Political Change', 132 and 134.

³⁴Andrew Bullen, 'Pragmatism vs. Principle: Cotton Employers and the Origins of an Industrial Relations System', in Jowitt and McIvor (eds), *Employers and Labour*, 27–43, 31–5.

³⁵Patrick Joyce, 'The Factory Politics of Lancashire in the Later Nineteenth Century', *The Historical Journal*, 1975, XVIII, 545.

³⁶Jack Reynolds, *The Great Paternalist: Titus Salt and the Growth of Nineteenth-Century Bradford* (London: Maurice Temple Smith, in association with

the University of Bradford, 1983); Ian Donachie and George Hewitt, *Historic New Lanark: The Dale and Owen Industrial Community since 1785* (Edinburgh: Edinburgh University Press, 1993).

³⁷Pickstone, *Medicine*, 142–3.

³⁸Patrick Joyce, *Work, Society and Politics: The Culture of the Factory in Later Victorian England* (Brighton: Harvester, 1980), 206–7; and White, *Limits of Trade Union Militancy*, 155.

³⁹Beattie, *Blackburn*, 40, 42–4.

⁴⁰*Ibid.*, 47.

⁴¹*Ibid.*, 47.

employers helped frame the town's boundaries for public health reform and formed part of the solution to public health problems.

Compared to other Lancashire towns during the latter half of the nineteenth century, Blackburn had a good record of investment in sanitation and structural reforms. Before the First World War, four successive Blackburn MOsH tackled the town's air pollution, improved housing, sanitation, infant mortality and the atmosphere in workplaces—with some success. Their efforts were not limited to sanitation and the infectious disease that are often solely attributed to MOH success.⁴² Expenditure on waterworks, sewers and refuse disposal increased and new building regulations ensured adequate yard space for new homes to an extent not found in most Lancashire towns.⁴³ These early successes served to increase the power of the MOH and led them to broaden their efforts.

Under the broader remit of disease prevention, the Blackburn MOsH encouraged local employers to address specific health concerns in factories, including workers' spitting, sanitation and overall cleanliness. They also argued that steaming could spread consumption and other respiratory diseases.⁴⁴ Yet the MOsH also recognised the centrality of the factories to the local economy and compromised. If employers deemed steaming essential to production, then cloakrooms should be provided to keep outdoor clothes dry, factory ventilation improved and clean water provided for humidifiers.⁴⁵ At the same time, the Blackburn MOsH actively sought legislation banning steaming on health grounds.

The Blackburn MOH, Dr Stephenson, was a particularly vocal and ardent campaigner for factory reform. He helped persuade the Borough to conduct an enquiry into steaming, where he also gave evidence—along with operatives, employers and the factory inspectorate. In 1888, this Committee agreed with Stephenson that the heavy steaming practised in Blackburn contributed to the town's high death rates from respiratory diseases.⁴⁶ When by 1897 the town had implemented few reforms, Stephenson took his case to a Parliamentary inquiry. He argued that steaming contributed to the 'wholesale slaughter of the inhabitants' of the town (Roscoe's report).⁴⁷ While Roscoe's report covered many Lancashire towns, Stephenson's persistence and outspokenness against steaming at both the local and national level meant that Blackburn's employers could not simply ignore the working environment. Stephenson ensured that it would be incorporated into Blackburn's public health context.

⁴²E.g. Anne Hardy, *The Epidemic Streets: Infections, Disease and the Rise of Preventive Medicine, 1856–1900* (Oxford: Oxford University Press, 1993), 293–6.

⁴³In the latter half of the nineteenth century 270 square feet of yard space was standard for new homes in Blackburn, compared with 150 for Preston, 70 for Manchester (between 1868–70) and 240 in Huddersfield. Nigel Morgan, 'Infant Mortality, Flies and Horses in Later-Nineteenth-Century Towns: A Case Study of Preston', *Continuity and Change*, 2002, 17, 107 and 131, n. 33; Stefan Muthesius, *The English Terraced House* (London: Yale University Press, 1983), 126.

⁴⁴Lancashire Record Office (henceforth LRO) HRBL/2/1/1, *Report of the Medical Officer of Health for the Year 1887*, Borough of Blackburn (henceforth *Blackburn*

MOH Report), 9; LRO HRBL/2/1/3, *Blackburn MOH Report*, 1891, 26; LRO HRBL/2/1/8, *Blackburn MOH Report*, 1898, 79, 66; LRO HRBL/2/1/9, *Blackburn MOH Report*, 1899, 76–9 and LRO HRBL/2/1/10, *Blackburn MOH Report*, 1902, 125, 143–4, also cited in Greenlees, 'Stop Kissing', 230.

⁴⁵LRO HRBL/2/1/3 *Blackburn MOH Report*, 1890, 26; LRO HRBL/2/1/8 *Blackburn MOH Report*, 1896, 60–1; LRO HRBL/2/1/8 *Blackburn MOH Report*, 1897, 62–6; LRO HRBL/2/1/10 *Blackburn MOH Report*, 1902, 143–4; *Public Health*, Feb. 1903, 284, also cited in Greenlees, 'Stop Kissing', 230.

⁴⁶E. Billington, *Report of the Special Committee appointed to Enquire into the Subject of Steaming in Weaving Sheds (with Evidence Tendered to Them)*, (Blackburn: Blackburn Corporation, 1888).

⁴⁷Roscoe, *Report*, Evidence, 10.

Blackburn employers responded to the MOsH concerns with various measures that did not impede production.⁴⁸ In 1896 the Blackburn Manufacturers' Association sought their own comparative information about the number of 'absentees through illness in the weaving shed', as compared with other departments.⁴⁹ While the results remain unknown, shortly thereafter the employers invested in new facilities to store workers' outdoor clothing; they more rigorously followed the atmospheric requirements of the Factory Acts; and, many installed new humidifiers and hygrometers.⁵⁰ None of these changes impeded production.

Blackburn employers recognised that certain economic benefits were associated with a healthier factory environment. In August 1913, John Taylor, Secretary of the Employers' Association, wrote numerous complaints to Messrs Baird & Tatlock, Ltd, Scientific Instrument makers, about the delays in the delivery of new hygrometers, while also defending to the Factory Inspectorate the employers' right to manage and arrange their own mills as they saw fit.⁵¹ To manufacturers, Taylor promoted the production benefits attributable to an improved working environment. In September 1913, he wrote to the manager of Messrs Wilding Bros Ltd. that: 'The atmosphere in your shed is very bad and it will pay you to take steps to improve the ventilation, as it will greatly benefit the operatives and therefore tend to increase your production.'⁵² The link between work, health and profits was clear. It was acknowledged by physicians, employers and weavers alike. Indeed, mill workers had protested rising steam levels by staging a series of impromptu strikes and walkouts in the years prior to the First World War.⁵³ While after the November 1913 strike employers sought to reassert their control and threatened to dismiss any future strikers, at the same time, many were purchasing new atmospheric technologies. The link between workers' health and the socioeconomic needs of production was clear.

Judging the impact of public health reforms is difficult because there is no singular outcome or sole contributing factor to either success or failure. In Blackburn, some improvements were made to the factory environment. The town also invested in broader public health initiatives, including sanitary structures, converting remaining pail closets to water closets, increasing cemetery provision, improving refuse disposal and improving the town's water supply with new reservoirs on the outskirts of Blackburn.⁵⁴ Yet the town's maternal and infant mortality rates remained high, as did the rates of respiratory diseases. Rather, the period before the War illustrates how the town incorporated the working environment into its health agenda, while employers incorporated it into

⁴⁸LRO HRBL/2/1/3 *Blackburn MOH Report*, 1890, 26; LRO HRBL/2/1/8, *Blackburn MOH Report*, 1896, 60–1; LRO HRBL/2/1/8 *Blackburn MOH Report*, 1897, 62–6; LRO HRBL 2/1/10 *Blackburn MOH Report*, 1902, 143–4; *Public Health*, Feb. 1903, 284.

⁴⁹Winding and warehouse departments. LRO DDX 1115/1/2 *Blackburn Manufacturers' Association, Minute Book, 1896–1913* (henceforth, *Minute Book*) Meeting of 19 June 1896.

⁵⁰LRO DDX 1115/4/2 *Blackburn and District Cotton Manufacturers' Association, Letter Book, 1906–1913* (henceforth, *Letter Book*), 19 April 1912; 20 Nov. 1912.

⁵¹LRO DDX 1115/4/2 *Letter Book, 1906–1913*, John Taylor, Secretary to Messrs Baird & Tatlock, Ltd., Scientific Instrument Makers, 31 August (probably 1912); J. Taylor to B. A. Whittelegge, C.B., M.D., H.M. Chief Inspector of Factories, Home Office, London, LRO DDX 1115/4/2 *Letter Book, 1906–1913*, 1 May 1913.

⁵²Messrs Wilding Bros Ltd, Alexandra Mills in Preston. LRO DDX 1115/4/2 *Letter Book, 1906–1913*, John Taylor to T. Telly Esq., Messrs Wilding Bros Ltd., Alexandra Mills, Preston, 1 Sept. 1913.

⁵³LRO DDX 1115/4/2 *Letter Book, 1906–1913*, 13 Nov. 1912 and 18 Nov. 1913.

⁵⁴Beattie, *Blackburn*, 65–7.

their business accumulation matrix. The overall impact of these measures on the health of the town was unclear and probably marginal.

After the First World War, Blackburn's community health context changed alongside local industrial decline. The latter partly related to the town's insular nature, but was mostly due to its limited cloth range and reliance on an Indian market which had increased its own cloth production during the war. By 1921, employment levels in cotton ran at about half their 1920 peak, which continued throughout 1921 and 1922 and into 1923. By 1930, Blackburn's unemployment rate was over 40 per cent and in 1936, when a temporary industrial recovery started, half the insured weavers in Blackburn and Darwen were either unemployed or on reduced earnings.⁵⁵ Throughout the interwar period, some years were inevitably economically better than others. Yet the high unemployment rates shown in Table 4, combined with widespread poverty, make it unsurprising that the survival of the town's core industry was prioritised by employers, physicians, workers and local government. Indeed, employment and a living wage are core contributors to a town's health.

At the same time, the associated health implications of poverty also need consideration. Table 3 demonstrates that while infant mortality rates (IMR) in Lancashire textile towns gradually declined, they lagged behind the improvements elsewhere in England and Wales. Moreover, the IMR in certain textile communities, including Burnley and Preston, remained considerably higher than elsewhere. Elizabeth Roberts has argued that there was a complex, but valid, 'relationship between a low standard of living and high infant mortality rates.' Moreover, the effect of general economic and social conditions had a greater impact on IMR than the mismanagement or neglect of children by working-class mothers.⁵⁶ Yet both contemporaries and historians have blamed mothers, especially those who worked, for the neglect of their children and high maternal and infant mortality rates.⁵⁷ While explaining high IMR in textile towns is beyond the scope of this article, the evidence here supports Roberts' argument about the significance of environmental factors contributing to high infant mortality rates. During the peak years of the recession, 1930–33, Blackburn's unemployment rate was constantly higher than in Burnley, particularly women's, yet the town's IMR was usually lower. Blackburn's efforts at addressing the unhealthy living and working environment may well have contributed to this figure, but so too might the increased ability of mothers to care for their own children.

More broadly, if we look at the town's overall mortality rates, the improvements of earlier years stagnated during the interwar years (Tables 1 and 2). While direct links between unemployment and mortality are tenuous, unemployment may have contributed to the stagnation because local and national governments had multiple problems to address. While it is difficult to argue that the neglect of the working environment in

⁵⁵Pope, *Unemployment*, 104–08; E. M. Gray, *The Weavers' Wage: Earnings and Collective Bargaining in the Lancashire Cotton Weaving Industry* (Manchester: Victoria University, 1937), 28–30.

⁵⁶Roberts, *Woman's Place*, ch. 4 and 168.

⁵⁷Eg. Carol Dyhouse, 'Working Class Mothers and Infant Mortality in England, 1895–1914', *Jnl. Soc. Hist.*, (1978), 12, 2, 248–67; Anna Davin, 'Imperialism and Motherhood', *Hist. Wkshp*, 1978, 5, 9–65;

Ellen Ross, *Love and Toil: Motherhood in Outcast London, 1870–1918* (Oxford: Oxford University Press, 1993); Laura Marks, *Metropolitan Maternity: Maternal and Infant Welfare Services in Early Twentieth Century London* (Atlanta, GA: Rodopi, 1996); *Annual Report of the Preston Medical Officer of Health*, 1902; George Newman, *Infant Mortality. A Social Problem* (London, 1906).

Table 4. Annual mean unemployment levels in Blackburn and Burnley, 1927–1938

Year	Blackburn Men	Women	Burnley Men	Women
1927	11.0	8.9	8.5	9.4
1928	13.2	14.7	9.6	10.0
1929	15.3	14.8	11.9	11.2
1930	34.4	56.1	27.7	39.2
1931	39.9	56.4	33.2	45.0
1932	33.0	39.7	21.1	26.2
1933	34.1	36.7	22.7	28.3
1934	30.9	33.3	22.4	25.7
1935	29.5	34.0	21.0	25.1
1936	26.3	31.4	18.5	22.9
1937	19.5	23.8	14.7	19.3
1938	25.4	38.5	21.9	32.6

Source: Adapted from Ministry of Labour, *Local Unemployment Index*, Nos 1–12.n and 1–24 (new series) (HMSO, London, 1927–29, 1930–38), as cited in Rex Pope, *Unemployment and the Lancashire Weaving Area, 1920–1938* (Preston: University of Central Lancashire, Harris Paper Three, 2000), 29.

the interwar years contributed to this stagnation, its inclusion in the broad public health agenda of earlier may have indirectly contributed to earlier improvements.

Interest in the working environment began to decline shortly after the First World War. As Reynolds demonstrated with Saltaire, paternalism both prospered and declined alongside the local economy.⁵⁸ During and immediately after the war, Blackburn employers still acknowledged their ‘duty to look after the health of their work people’, but emphasised municipal provision and even that was reluctant.⁵⁹ Employers rapidly withdrew from local and national public health initiatives due to the recession and a growing belief that the state should increase its provision under the National Insurance Act.

Moreover, during the 1920s, conflicting evidence emerged about whether heat and humidity was actually harmful to workers’ health.⁶⁰ Earlier studies of the effect of steaming on operatives’ health examined mortality rates. These were now discounted because the majority of weavers were women and mortality figures for women were difficult to collect unless they died while still working. Moreover, death certificates did not always describe women as weavers. However, in 1924 and 1925 Bradford Hill completed a study of weavers’ sickness rates in wet and dry sheds and found no difference in these rates between wet and dry towns. In fact, some dry sheds were also found to have high humidity levels due to geography. This made it easier for employers to ignore working conditions.

Employers also tried to reduce their expenditure on health initiatives. They refused to adopt the proposed Welfare Work scheme and sought to reduce their contributions to both the Blackburn and East Lancashire Royal Infirmary and the Workers’ Health Insurance

⁵⁸Reynolds, *Great Paternalist*.

⁵⁹LRO DDX 1115/1/3 *Blackburn & District Cotton Manufacturers’ Association, Minutes 12 Nov. 1913–20, Jan. 1919*; Blackburn & East Lancashire Royal

Infirmary, *Proposals for Increased Financial Support, 1918*.

⁶⁰Bradford Hill, *Artificial Humidification*. Also discussed in Fowler, *Lancashire Cotton Operatives*, 162–3.

Fund.⁶¹ Shortly after the passing of the 1929 Local Government Act that empowered County Boroughs to appropriate Poor Law institutions, the employers resolved: '... that the cost of Health and Unemployment Insurance is a very greivous burden on the overhead charges of the Trade, and that this should be a direct charge on the Nation, and not on industry and further we strongly urge the Central Committee without delay to form a deputation to the Government on this matter.'⁶² The timing is indicative. The Local Government Act is usually considered the point of departure for municipal involvement in hospital provision. Indeed, in 1929 the County took over the local Workhouse and associated infirmary. Possibly due to the continued negative association of the now Queen's Park Institution with the Poor Law and possibly from declining municipal funds, as well as continued paternalistic inclinations and historic precedent, the employers sustained their Infirmary contributions. This sum was nominal in comparison with the contributions of workers and other donors and particularly in relation to rapidly rising health-care costs.⁶³ Yet it is clear that not only was the community health context changing, so too were local understandings of the boundaries of the health remit. Institutional initiatives were replacing preventive medicine.

Blackburn municipality invested little in healthcare. By 1936, Blackburn spent below the national average on health services and public health initiatives, as did other boroughs in the economically depressed north-west.⁶⁴ Indeed, as Table 5 demonstrates, of the leading cotton manufacturing towns of Bolton, Blackburn, Burnley, Oldham and Preston, only Bolton spent less per 1000 of population on healthcare. While there was no sustained public outcry to low spending, this could only have had a detrimental effect on services and new initiatives, as well as health on the shop floor. Responsibility for health and safety now lay with the state and individuals. While the Blackburn MOsH blamed mothers for the high maternal and infant mortality rates, employers posted signs informing employees of their personal responsibility for accident and disease prevention.⁶⁵ Emphasising individual responsibility narrowed the public health remit and reduced the MOH's accountability. Earlier campaigns to explain the impact of poverty and the environment on the town's health were replaced by a growing interest in collecting statistics and producing increasingly repetitive reports.

Indeed, the decline of cotton's economic dominance in Blackburn shook the town's political and urban structure after the First World War. The council did not invest in

⁶¹LRO DDX 1115/1/4, *Minute Book*, 22 Jan. 1919–25 Jan., 1923, 14 May 1922; E.g. LRO DDX 1115/1/7 *Minute Book*, 23 Sept. 1931–3 Jan. 1939, 5 Sept. 1935 and 20 Jan 1927; LRO DDX 1115/1/6, *Minute Book*, 5 October 1927–7 Sept. 1931, 29 Jan. 1930.

⁶²LRO DDX 1115/1/6, *Minute Book*, 5 October 1927–7 Sept. 1931, 5 Feb 1930.

⁶³Voluntary Hospital Database, <www.hospitalsdatabase.lshhtm.ac.uk> (accessed 2 Feb. 2011). M. Gorsky, J. Mohan and M. Powell, 'British Voluntary Hospitals, 1871–1938: The Geography of Provision and Utilization', *Journal of Historical Geography*, 1999, 25, 463–82; and M. Gorsky, M. Powell and J. Mohan, 'British Voluntary Hospitals and the Public Sphere: Contributions and Participation

before the National Health Service', in Steve Sturdy (ed.), *Medicine, Health and the Public Sphere in Britain, 1600–2000* (London: Routledge, 2002), 123–44.

⁶⁴Levene *et al.*, *Cradle to Grave*, 52 and 54.

⁶⁵The MOH cited women's refusal to avail themselves of healthcare and an increased use of the self-administration of abortifacients. *Blackburn MOH Report*, 1934, 153–4. E.g. Using spittoons and the self-prevention of epitheliomas amongst mule spinners. LRO DDX 1115/9/2 *Minute Book*, 4 June–13 May 1939, 12 Nov. 1923, 29 June 1932 and 2 May 1938, Textile employers were asked to post disease prevention posters; LRO DDX 1115/1/6 *Minute Book*, 5 Oct. 1927–7 Sept., 1931, 7 May 1928.

Table 5. Expenditure by Lancashire districts per Thousand on Major Health Services, 1936/7, and Percentage Change From 1922/3

	Expenditure per thousand in 1936					Change from 1922					
	Mental hospitals	Mental deficiency	Infectious disease	TB	MCW	Total expenditure minus general hospitals	Mental hospitals	Mental deficiency	Infectious disease	TB	MCW
Blackburn	23.84	53.97	60.56	91.78	80.54	406.40	-101.42	82.63	-14.58	34.23	52.99
Bolton	22.63	56.74	43.64	46.82	68.59	348.00	-142.67	81.15	14.74	14.22	50.86
Burnley	21.64	54.27	53.82	111.26	130.61	497.06	-120.73	82.77	3.29	42.99	34.11
Bury	16.35	41.03	60.67	77.08	68.89	426.68	-93.34	85.05	-33.52	-30.37	49.68
Oldham	18.65	46.77	82.07	91.70	130.18	479.07	-66.94	87.07	18.28	37.75	84.66
Preston	18.17	42.27	62.80	99.96	80.85	415.95	-175.25	77.77	13.24	44.93	61.68
Rochdale	15.60	39.13	86.06	120.70	121.14	485.77	-72.57	86.66	-4.39	1.43	36.56
Mean for England & Wales*	42.85	74.02	94.50	112.81	99.55	N/A	-10.75	81.41	15.76	32.14	52.07
Standard Deviation England & Wales*	46.86	46.59	33.90	39.11	37.75	N/A	575.57	12.20	35.74	29.30	18.38

* Both the mean and standard deviation are derived from the full data set of 84 districts in England and Wales as cited in the Local Government Financial Statistics, 1922/3 and 1936/7.

Note: Mean and standard deviation figures have not been calculated for total expenditure minus general hospitals in 1936 because the latter category was not a uniform head of expenditure across the whole dataset.

Source: Data and notes from Table 2.4 in Alys Levene *et al.*, *Cradle to Grave: Municipal Medicine in Interwar England and Wales* (Oxford: Peter Lang, 2011), 68–71.

infrastructure, housing or other urban improvements. Instead, managing unemployment and the unemployed during the interwar recession became the priority.⁶⁶ Unemployment in weaving communities such as Blackburn and Burnley was particularly acute due to high female participation rates in the labour force; approximately one-half of women worked compared to the national average of under one-third. Moreover, alternative occupations for females were particularly difficult to find and were hindered by the low geographic mobility of married women. The Anomalies Act of 1931 tightened regulations concerning benefits to certain groups, including married women, disqualifying approximately one-quarter of women in weaving towns for relief.⁶⁷ Such high unemployment rates meant that local councils prioritised relief for the unemployed over health reforms or investment in structural improvements.

Compared with many East Lancashire industrial towns, Blackburn's housing stock remained in quite good condition and it was less than 50 years old. Indeed, the MOH, Dr V. Thierens, did not believe Blackburn had any real slums and only houses let as lodgings were in poor repair and suffered overcrowding.⁶⁸ Hence, few jobs were created in building or upgrading municipal housing. Moreover, in 1938, a report made to the Pilgrim Trust highlighted the overwhelming poverty in the town and noted that 'the predominant impression which Blackburn leaves is that of grimness ...'⁶⁹

By the Second World War, Blackburn had physically changed little since 1914, as had the internal workings of the factories—machines and conditions. Unemployment remained high and most people still lived in Victorian terraced housing. Moreover, and perhaps unsurprisingly, the town's political leadership lacked ideas to reinvigorate the town when its core industry was in severe decline. The town's people became increasingly alienated from the cotton industry because it was unable to provide employment security or a decent living wage. Nevertheless, for a limited time, Blackburn's public health agenda was broad and inclusive enough to make the working environment an important part of the town's community health context.

Burnley and the Divergences in Working Environments and the Public Health Agenda

While only about eleven miles east of Blackburn, Burnley framed its public health differently due to local economic, political and social peculiarities. Like Blackburn, the Burnley mills produced cheap cloth for export, although more medium weight grey cloths than plain dhooties. However, whereas in the late nineteenth century Blackburn mill ownership was concentrated in the hands of only a few, mostly middle-class families, in Burnley, a number of weaving firms operated as cooperatives. More common were small, family firms, and the 'room and power' scheme, whereby space in sheds could be rented cheaply, which provided opportunities for working-class men to become bosses. Modifying Reynolds argument concerning the self-interested philanthropy of industrialists, in

⁶⁶A Report made to the Pilgrim Trust, *Men without Work* (Cambridge: Cambridge University Press, 1938),

⁶⁷Rex Pope, 'The Unemployment Problem in Northeast Lancashire, 1920–1938', (unpublished MLit thesis, Lancaster University, 1974), 222–5, 230–1.

⁶⁸*Blackburn MOH Report*, 1928, 28; *Blackburn MOH Report*, 1929, 30, 32; and *Blackburn MOH Report*, 1930, 39.

⁶⁹*Men without Work*, 82.

Burnley, the limited employer paternalism was directed towards municipal benefit rather than towards employees.⁷⁰ Employers' contributed to both social welfare programmes designed to aid the town's less fortunate residents and to indicators of civic pride and personal status, including funding schools, churches and chapels.⁷¹ Although these initiatives were broadly important to the health of city residents, innovations did not extend to the workplace.

Burnley's local government adopted a consistently *laissez faire* approach to industry and prioritised broad municipal socialism over more concrete public health reforms. Welfarism occurred without rather than within the factory. Municipal investment was designed to improve the town's public image and aid the broader well-being of residents. Burnley municipality installed street lights, parks, recreation fields and gardens in order to provide opportunities for socially acceptable, or rational, recreation, while the fresh air and exercise countered the oppressive climate within the factories. These facilities were well used, with Burnley having many football and cricket teams by the 1880s.⁷² While these contributed to the broader well-being of the residents of the town, they did not address the poverty and substandard housing. Indeed, direct health innovations in the town were minimal. The town's inability to retain Poor Law doctors due to their refusal to pay the going rate for the area, combined with Burnley being the last major industrial town in Lancashire to build an Infirmary in 1886, reveals much about how the council prioritised health before the First World War.⁷³

The Burnley MOsH did little to promote health reform, although they experienced some successes in addressing certain mortality and morbidity issues, particularly childhood illnesses.⁷⁴ They blamed residents, but particularly mothers, for high infant mortality rates, the ill health of children and unclean houses. They argued that the latter allowed the spread of germs. Indeed, at the turn of the century, Burnley had the unenviable distinction of having one of the highest infant mortality rates in the country and vied with Preston for the highest overall death rate in Lancashire during the ensuing decades (see Tables 1–3). Similar to other Lancashire towns with high female employment rates, the Burnley MOsH blamed the high IMR firmly on mothers working.⁷⁵ Starting with Burnley's first MOH, Dr Thomas Dean, three successive MOsH made similar complaints about how the 'engagement of mothers in cotton mills and weaving sheds during the day, necessitates the hiring out of infants to nurse and the exposure of them to the cold morning air in winter time whilst in transit to the house of the nurse. ... This evil is indispensable from a cotton town, where woman's labour is highly paid ...'⁷⁶ Yet Roberts has shown how Lancashire working-class women did not view their employment as a contributor to their babies' deaths. Women's explanations included difficult births and attributed this to working in the late stages of pregnancy. Roberts also found that women who had

⁷⁰Reynolds, *Great Paternalist*, chs 2 and 6.

⁷¹Russell, *Political Stability*, 254.

⁷²*Ibid.*, 133.

⁷³*British Medical Journal* (7 June 1913), 1, no. 2736, 1254; *The Medical Officer*, 28 December, 1912, 23–4.

⁷⁴LRO CBBu 6/1 1874–93, *Annual Report of the Burnley Corporation Officials, including MOH* (hereafter *Burnley MOH Report*), 1923, 80, 50.

⁷⁵Roberts, *Woman's Place*, 164–5.

⁷⁶Burnley MOsH: Dr Thomas Dean (1874–1906), Dr Thomas Holt (1906–31) and when he retired, Dr D C Lamont (1931–39+). LRO CBBu 6/1 1874–93, *Burnley MOH Report for year ending 25 March 1883*, 29. See also *Burnley MOH Report*, 25 March 1886, 31; LRO CBBu6/4 *Burnley MOH Reports, 1905–1908*, 4–5; *Burnley MOH Report for nine months ending 31 Dec. 1906*, 17, etc.

never done any full-time work after marriage lost as many or more babies than women who worked.⁷⁷ Indeed, as Roberts and others have argued, the real explanations behind high infant mortality rates were complex. They probably included ignorance, the general environment (including the quality of housing and any overcrowding), poverty, child rearing practices—especially surrounding feeding, and local physicians' indifference to the poor and their associated refusal to attend in poor neighbourhoods throughout the early decades of the twentieth century.⁷⁸

To address the high IMR that Dean attributed to mothers' working, Dean proposed opening crèches with trained carers. These were not forthcoming; nor were there any guarantees that women would use them due to women's preference for having relatives care for their children or uncertainty that crèches would solve the problems.⁷⁹ Indeed, the multiple contributors to infant mortality, combined with Burnley's sweeping health problems, meant that tackling the issue required a much broader approach than Dean proposed.

In terms of broader morbidity and mortality, the Burnley MOsH makes clear the lack of a medical consensus in Lancashire concerning disease causation. In the late nineteenth century, the MOH, Dr Thomas Dean, complained that the town's people were too fussy about the town's environment: 'People have no right to expect the pure air of a desert in a thickly populated manufacturing town where everything, both mechanical and human is at high pressure.'⁸⁰ Dean went on to blame the prevalence of lung diseases in harsh winters, such as bronchitis and phthisis, on workers. He patronizingly stated: 'I wish I could believe that factory and workshop folks have paid more attention to my reiterated advice to breathe through the nose, and not through the mouth, on leaving warm workshops in Winter.'⁸¹ The factories were not considered a core site for disease and hence, they were not included in the public health agenda.

In 1921, Dean's successor, Dr Thomas Holt, agreed that individuals were responsible for their own ill health. He explained that '[W]hatever the community does in combating disease will be of little use unless it can get the individual to show a better appreciation of the value of personal cleanliness in its widest sense, as well as the value of health surroundings and pure atmosphere (at home).'⁸² While there are some truths surrounding individual responsibility for cleanliness, Holt's judgement that Burnley's residents did not appreciate cleanliness lacks evidence. Indeed, Roberts' study of Preston revealed that women kept their homes as clean as possible. She highlights the time constraints working women faced with the double shift of factory work and housework, when their husbands' contribution stopped with a portion of their pay packet. Consequently, standards of cleanliness were below what many women would have liked.⁸³ There is no reason to doubt the experiences of other Lancashire women differed greatly.

⁷⁷Roberts, *Woman's Place*, 164–5.

⁷⁸*Ibid.*, 164–8; Jill Liddington and Jill Norris, *One Hand Tied Behind Us: Rise of the Women's Suffrage Movement* (London: Virago, 1985), 58–9. Walton, *Lancashire*, 310; *Burnley Gazette*, 26 Feb, 1908, as cited in Trodd, 'Political Change', 92.

⁷⁹Roberts, *Woman's Place*, 166–7.

⁸⁰LRO CBBu 6/1 1874–93 *Burnley MOH Report*, 1884, 84.

⁸¹LRO CBBu 6/1 1874–93 *Burnley MOH Report*, 1896, 79–80.

⁸²LRO CBBu 7/5 *Burnley MOH Report*, 1921, 8.

⁸³Roberts, *Woman's Place*, 164–68.

While both women and children suffered from the duality of mothers' work, employers' goals of working faster and cutting corners made it difficult for all cotton operatives, male and female, to avoid illness and injury. Many operatives needed to retire in their 40s, rather than their 60s.⁸⁴ Yet ill health and injuries were common to most weaving towns and need to be paralleled with community investment in housing and broader public health initiatives, particularly sanitation. Here, Burnley differed from Blackburn.

Somewhat ironically, the Burnley MOH deflection of health responsibility to residents came shortly after Burnley's local Government Board was forced to admit that it had not taken the necessary steps to remedy the poor condition of the town's housing in line with the requirements of the Housing Acts of 1890 and 1909.⁸⁵ Much of Burnley's housing stock was back-to-back with poor ventilation. As late as 1932, the then MOH, Dr D. C. Lamont complained that much of the town's housing did not conform 'to present day standards of hygienic dwellings ..., the majority of which needed to be rebuilt.'⁸⁶ While Burnley council invested in new sanitary structures, including drains and sewers, these suffered delays, as did the building of new houses.⁸⁷ Hence, reducing overcrowding was a slow process but one that contributed to a decline in contagious diseases.

Burnley municipality's conceptual framework of health emphasised individual and family responsibility. The town employed female sanitary inspectors to visit houses and advise mothers and nurses how best to bring up and feed infants. Living in poor accommodation and earning low wages, with dual burdens of work and home, many women found addressing the inspectors' requests impossible. However, their older children benefitted from free school meals, designed to prevent the pauperisation of families, to some success. When in 1931 and 1932 a high proportion of Burnley school children received free school meals, this was accompanied by low levels of malnutrition.⁸⁸ As in Blackburn, public health reform in Burnley had mixed results. The Burnley emphasis on individual and family responsibility for health reform reflected the council's unwillingness to invest in widespread public health improvements. Furthermore, the town's narrow public health remit consistently excluded the workplace.

In such a complex context, it is unsurprising that Burnley's employers were able to ignore the working environment. Indeed, prior to the First World War, Burnley's employers gained a notorious reputation for their working environment. They practised heavy steaming and had an infamous reputation for 'driving' their weavers—pressure from overlookers to work faster.⁸⁹ They were also known for their repressive discipline, as evident when they refused to compromise during the strikes and the ensuing violence over the Burnley wage 'lists' during the 1870s. Employers expected and strove for complete control in the workplace. Strikes in both the town's textile and coal industries were

⁸⁴Walton, *Lancashire*, 309–10; Alice Foley, *A Bolton Childhood* (Manchester: Manchester University, 1973), 52; Allen Clarke, *The Effects of the Factory System* (1899), 43–4, 56–7, 64–70, 86–90.

⁸⁵Housing of the Working Classes Act of 1890 and the Housing, Town Planning & c., Act of 1909. BPP [Cd. 7511] *Forty-third Annual Report of the Local Government Board, 1913–14* (London: HMSO, 1914), 36.

⁸⁶LRO CBBu 7/9 *Burnley MOH Report, 1932–34*, 12.

⁸⁷LRO CBBu 6/4 *Burnley MOH Report, 1905*, 5.

⁸⁸Pope, *Unemployment*, 69.

⁸⁹Joyce, 'Factory Politics', 529; W. Bennett, *The History of Burnley from 1850* (Burnley: Burnley Corporation, 1951), 95–7 as cited in Jutta Schwarzkopf, *Unpicking Gender: The Social Construction of Gender in the Lancashire Cotton Industry* (Aldershot: Ashgate, 2004), 19.

regarded as social insubordination that must be suppressed. In response, the Burnley weavers became a particularly well-organised, militant and political union. They labelled Burnley employers 'about the most grasping and penurious in the four Counties.'⁹⁰ Yet despite these conflicts, violent confrontations in Burnley occurred only intermittently and crystallised around industrial relations. Even then, non-violent collective bargaining was encouraged. Indeed, in economic downturns, the Burnley cotton masters made great efforts to maintain their firm's viability and protect as many jobs as possible. This contributed to a pervasive understanding of fairness amongst employers and workers, but one that did not directly incorporate health. Health was only attached to employment and wages, and importantly so. Health risks attributable to work, injuries and fatigue, were neglected.

During the twentieth century, local government responsibilities grew while the presence of textile employers on the Burnley council declined. These changes did not result in the council challenging employers to reform working conditions. Instead, the council remained focused on economic concerns and broader municipal improvements. The lack of a strong local authority or voice for factory reform enabled employers to ignore Factory Legislation and weavers' protests and strikes over working conditions, including 'excessive steaming', the temperature (too high or too low), poor ventilation, excessive steam, weavers' cough, insufficient drinking water, etc.⁹¹ Moreover, the employers' association was never united. They did not support each other when prosecuted for violating factory legislation. For example, in December 1900, Witham Brothers Ltd received the first Burnley prosecution for violating heat and humidity legislation. While the firm sought support from the Burnley Manufacturers' Association, it was not forthcoming.⁹² However, fines for violating the Act were small—approximately £5. Hence, while the Manufacturers Association lacked unity, at the same time, cohesion was unnecessary because local government, including the MOH employed by the council, did not challenge the laissez faire business climate.

After the First World War, Burnley employers continued to benefit from the laissez faire climate. After another local firm was prosecuted for violating legislation, the Burnley Manufacturers' Association recommended that members 'maintain a more satisfactory temperature [and ventilation] in sheds and twisting rooms.'⁹³ This was more lip-service than a strong recommendation. It was not followed up, nor was any noticeable pressure placed on managers to change business practices. In cases of accident or injury, employers preferred to pay compensation rather than install safety equipment or unite with other employers over liability issues. They ignored government regulation during the interwar period, refusing to provide the more and better water taps that the Factory Inspector,

⁹⁰*Cotton Factory Times*, 27 November 1891, 8 April 1887, as cited in Trodd 'Political Change', 32.

⁹¹E.g. LRO DDX 1145/1/1/2, *Burnley Master Cotton Spinners' and Manufacturers' Association, Minute Book* (hereafter *Minutes*), 23 Nov. 1899–6 Apr. 1909, 30 Dec. 1901, LRO DDX 1145/1/1 *Minutes*, 29 May 1894–15 Nov. 1899, 30 Oct. 1895, 11 May 1896, 29 July 1896, 11 Sept 1896, 19 Oct. 1896, 1 March 1897, 23 April 1897, 22 May 1897, 21 Aug. 1897 and 9 March 1897; LRO DDX 1145/1/1/

3 *Minutes*, 25 June 1909–1 May 1919; 31 Jan 1911; 12 Sept. 1911; 25 Feb 1913; LRO DDX 1145/1/1/4 *Minutes*, 29 May 1919–27 Sept. 1926, 12 Oct. 1922.

⁹²LRO DDX 1145/1/1/2, *Minutes*, 23 Nov. 1899–6 Apr. 1909, 31 Dec. 1900 and 29 Jan 1901.

⁹³LRO DDX 1115/9/1 Letter, 19 March 1918, from F. A. Hargreaves, Secretary of the Burnley Master Cotton Spinners' & Manufacturers' Association to member.

Mr Clark, required in many of the town's weaving sheds.⁹⁴ Both then and later, employers refused to meet the Factory Inspectors' requirements. Instead, they continuously debated their individual and collective responsibilities under the Employers' Liability Act of 1880 and the Workmen's Compensation Act of 1897.⁹⁵ No direct link was made between work and health. Instead, assumptions about the 'nature of things' created a narrow community health context and left unresolved many of the town's public health problems.

By the mid-1930s, mortality rates in Burnley remained high. The town's spending on major health services per 1000 population focused on tuberculosis and maternal and child welfare (Table 5). With these priorities it is unsurprising that in 1934, Lamont effectively dismissed the textile industries as being a significant contributor to the 'morbidity or mortality' of the town's residents. Respiratory ill health was also deemed part of the 'nature of things'.

Apart from the accepted prevalence of respiratory and rheumatic affections found amongst textile workers, there does not appear to be any undue morbidity or mortality directly related to any one of the commoner occupations of the inhabitants; and judging by the spectacular diminution of the death rate from respiratory diseases in the present century, and allowing for the decrease in the numbers employed, workers in textile processes would appear to suffer less severely from respiratory affections now than formerly.⁹⁶

Because Burnley's narrow conceptual framework of health centred on morbidity and mortality figures, many contributing factors to ill health were ignored, including sanitation, housing, poverty and the working environment. Rather than engage with the root causes of the city's health problems, Burnley officials continuously deflected responsibility to individuals and families and made only patchy, limited investment in structural works and targeted tuberculosis and maternal and child welfare. Such priorities would also have benefitted from improved sanitation. Indeed, in terms of congestion, poor housing, mortality and illegitimacy, Burnley residents suffered more than Blackburn's before the First World War. Certain districts such as Sandygate remained untouched by politicians, religious or union groups. These areas remained confined to a 'culture of poverty' that 'produced low self evaluation, pessimism and passivity'. While such districts existed in Blackburn, they were either fewer in number or less noticeable to observers.⁹⁷ While these pockets of poverty increased during the interwar recession and paralleled Burnley's, Blackburn's housing was better quality and the mortality rates lower. Economic decline in Burnley only served to increase the challenges associated with tackling the housing and mortality conundrums.

Unsurprisingly, the lack of local, including medical, interest in a broad public health agenda contributed to a decline in Burnley's working environment. While many Lancashire weaving towns utilised short-term working and temporary shortages, Burnley employers also supplied inferior cotton while expecting workers to produce higher

⁹⁴LRO DDX 1145/1/1/4, *Minutes*, 29 May 1919–27 Sept. 1926, 12 Oct. 1922.

⁹⁵LRO DDX 1145/1/1/1 *Minutes*, 29 May 1894–15 Nov. 1899, e.g. 29 July 1896, 28 Sept. 1896, 19 Oct. 1896, 1 March 1897, 15 and 23 April 1897, 7 and

22 May 1897, 21 Aug. 1897, 9 March 1897, and 20 May 1898.

⁹⁶LRO CBBu 7/9 *Burnley MOH Reports*, 1934, 12.

⁹⁷Trodd, 'Political Change', 237–8.

quality outputs. They manipulated existing piece-rate regulations to try and push employees to work for less than the legal wage rate, making unsurprising the trade union's sustained emphasis on wage-related issues. Employers also opposed innovations that were spreading in other industries by the 1930s, such as paid holidays.⁹⁸ Working conditions remained poor. If anything, the emphasis on cutting corners, combined with ageing buildings and machinery, must have worsened conditions.

Thus, in Burnley the narrow public health agenda and the neglect of the working environment reflected civic and community priorities. These lay elsewhere. It was easier for the town to view the many problems surrounding health as moral issues than to directly tackle them. For workers, the day to day struggle against poverty meant that working conditions were rarely their top priority. Yet when industry was booming, as in the run up to the First World War, the weavers struck over heavy steaming—to no effect. Instead, in Burnley, much public health, and indeed, sanitary science more broadly, was afforded an individual, moral diagnosis, rather than a social or economic one. This narrow community health context, combined with lacklustre legislation, meant little progress was made in public health reform.

Conclusion

These studies of Blackburn and Burnley highlight the complexities surrounding public health reform and defining its boundaries. The working environment was not simply related to the external pressures of scientific expertise and regulation or labour management relations as found by Melling, Bowden and Tweedale.⁹⁹ Nor were the social attributes Stark describes for anthrax the defining attributes for the working environment.¹⁰⁰ Instead, this article has argued that as a public health concern, the working environment was defined by the social, economic and political attributes that set the parameters of the local public health context.

This article also extends the work of Pickstone, Mclvor, Bartrip and Fenn and others who have argued the importance of politics, the unions and the national economy in influencing working conditions.¹⁰¹ While these may have been the case, this article presents evidence that local factors were at least as, if not more, important as public health agendas and national legislation in shaping attitudes towards the working environment. In Lancashire, this was related to the nature of these towns where their economic reliance on cotton textiles created a strong overlap between the workforce and community priorities. Similar to Rosenberg's argument about disease becoming a risk only after the community agreeing and responding that it is, in Lancashire, the working environment became a risk only after earning community agreement that such a risk existed. Indeed, the MOH was only one figure, albeit an influential one, in public health reform. Politicians, employers, workers, residents and broader economics all contributed to the health of the city and helped set or resist local health agendas and priorities.

⁹⁸Walton, *Lancashire*, 340.

⁹⁹Melling, 'Beyond a Shadow?'; Bowden and Tweedale, 'Mondays without Dread' and 'Poisoned by the Fluff'.

¹⁰⁰Stark, 'Factory Environment'.

¹⁰¹Pickstone, *Medicine*; Mclvor, 'State Intervention'; Bartrip and Fenn, 'Factory Fatalities'.

Stark has argued that diseases should be 'defined by their far more visible public manifestations rather than the biological properties primarily associated with specialist medical research [and which] leads to a broader understanding of their cultural significance.'¹⁰² While this may have been true for anthrax, local specificities also shaped definitions of disease, creating variations in meanings and understandings of health risks, as well as approaches to managing and prioritising public health risks between communities. This is clear when Blackburn is contrasted with Burnley. In Burnley, responsibility for health prevention centred on the individual. The town's narrow public health agenda related to lack of a broader health interest by employers, physicians and local government. Despite a Liberal council, this was hardly reflective of the New Liberalism, but rather a continuation of nineteenth-century classical liberalism. The town's relative poverty also meant that workers rarely prioritised the working environment. Instead, it held an anomalous position as part of the 'nature of things' rather than as part of the solution to the town's health problems.

More broadly, these case studies highlight the lack of consensus amongst physicians and local government about disease aetiology and amongst MOsH about the remit of their responsibilities. They also highlight both the limits and the necessity of legislation. Legislation alone could not control health and safety at work because employers were able to avoid it. For public health reforms to have succeeded in a factory environment, or indeed any workplace, they needed to include a consensual framework that defined the problem and that involved local physicians, employers, workers and local government. Only then did the factory environment become part of a town's public health agenda and the issues addressed. However, further research is required if we are to fully comprehend the importance of, and relationships between, local impetuses, industrial trends, regional specificities, national health priorities and legislation in securing public health improvements.

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¹⁰²Stark, 'Factory Environment', 357.