Scottish Journal of Residential Child Care

SPECIAL FEATURE:
REFLECTIONS ON COVID-19

BEFORE COVID-19: THE EFFECT OF THE 1918 PANDEMIC ON SCOTLAND'S CHILDREN

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Abstract

The erroneously named 'Spanish Flu' pandemic of 1918-1920 was responsible for the deaths of at least 50 million people worldwide. Its point of arrival in the UK was Glasgow, Scotland, probably brought by troops returning from the battlefields of the Great War. The first infections were in factories and a boys' industrial school and the first recorded deaths were of eight children at the former Smyllum Orphanage in Lanark. The British Newspaper Archive is a valuable online source of reports about the pandemic from local Scottish newspapers of the time, but there is more research to be done in the National Records of Scotland and in local archives. The authors welcome advice on potential sources of the effects of the 1918 pandemic on Scottish orphanages, children's homes and industrial schools.

Keywords

'Spanish Flu', COVID-19, children, orphanages, industrial schools, Scotland

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Introduction

As we are all presently experiencing restrictions to our normal daily routine in various degrees - depending on where in the world we live - necessitated by the COVID-19 pandemic, it is instructive to consider the historical parallels with a previous viral pandemic, popularly known as the 'Spanish Flu'.

COVID-19 is a highly infectious acute respiratory illness caused by the novel coronavirus SARS-CoV-2. The virus was first reported in Wuhan, China in December 2019, and has since become a global pandemic with devastating effects on our health, economy, and everyday social interaction. At the time of writing, in late May 2020, more than five million people were reported to have been infected worldwide, around two million people had recovered, and more than 326 thousand had died. Around 80% of the deaths were in the over 60 age group - and 75% of these had pre-existing health conditions such as cardiovascular diseases and diabetes (Worldometers, 2020).

Children appear to be as likely to be infected by COVID-19 as adults, but they are less likely to experience serious illness (Liverpool, 2020). Other studies consistently indicate that children under the age of 18 make up only around 2% of total cases worldwide (Royal College of Paediatrics and Child Health, 2020). It is not yet entirely clear whether children are more or less likely to spread the disease as adults, 'but there is some evidence that their role in transmitting the virus is fairly limited' (Royal College of Paediatrics and Child Health, *ibid*). A study of cases in 14 primary and high schools in New South Wales, Australia found no

instances of children infecting adults, however, the research was conducted when school attendance was low, thus enabling social distancing (National Centre for Immunisation Research and Surveillance, 2020). While the role children play in transmitting the disease is unclear, current thinking is that children are less likely than adults to acquire infection and less likely to bring infections into households (Boast, Munro, & Goldstein, 2020).

Just over a century ago, as the world was reeling from the death and destruction of the First World War, a viral pandemic struck: what came to be, erroneously,[1] known as 'Spanish Flu'. The influenza pandemic of 1918-1920 killed at least 50 million people, most dying in the second wave in late 1918, with young adults at greatest risk of death, rather than the elderly, who may have been protected by childhood exposure to a similar virus (Worobey, Han, & Rambaut, 2014). The higher rates of infection and mortality among young adults in the armed forces may also have been related to the movement of troops and close confines of trench warfare (Flecknoe, Wakefield, & Simmons, 2018). At a time before the internet made everyone a lay epidemiologist, before apps, and when knowledge of virology was much less sophisticated, the tools of public health were, however, remarkably familiar:

> …the activities of the practitioners on the ground – quarantine, isolation, public propaganda, warnings, anti-spitting campaigns, legal restrictions on commercial activities, inspection, surveillance, and mandated (often public)

[1] Although the origins are uncertain, it is generally agreed it was not in Spain, but, 'As a neutral country during World War I, Spain lacked the incentive to censor the news the way combatants did' (Mamelund, 2017, p. 6)

> identification and (perhaps) stigmatization – were all employed (Rosner, 2010, p. 39).

Among the first reported cases was Albert Gitchell, a cook at Camp Funston in Kansas, USA, who became ill on 4 March 1918. The disease spread among US soldiers and may have been brought with them to Europe. The exact origin of the virus is disputed. As with COVID-19, China has been identified as a possible source, the virus perhaps being brought to France by Chinese labourers recruited to dig Great War trenches (Butler & Hogg, 2007). Others think it was more likely to have originated in the unsanitary conditions of the war in France and thereafter moving from Europe to China (Oxford et al., 2002). An alternative name for the disease was Flanders Fever. Once established, the disease moved rapidly through France, Germany, Italy, Spain, and the UK, and during the next 18 months spread out in waves across the world via the military supply and trading routes, successively petering out and flaring up again (Martini, Gazzaniga, Bragazzi, & Barberis, 2019).

In recent years, scientists have been able to study the genetic structure of the 1918 virus using DNA from stored autopsy samples and tissues from exhumed preserved bodies. This kind of research has found strong evidence that Spanish Flu originated shortly before 1918 when an existing human virus changed by acquiring avian (bird) genes. People born earlier than 1880 or later than 1900 would have had protection against the 1918 virus because of childhood exposure to a similar virus, whereas those born in the period 1880-1900 had childhood exposure to a different virus which gave no immunity to Spanish Flu (e.g. Worobey et al., 2014).

The 'Spanish Flu' comes to Scotland

The first report of the disease in the UK was in Glasgow, Scotland. The medical journal, *The Lancet*, published a report in July 1918 by Glasgow's assistant medical officer of health, Dr Alexander MacLean. This brief article reported the nature of the disease and also provided an account of its early local spread (MacLean, 1918). Cases of influenza-type illness appeared in the first week of May 1918, with 420 cases in three factories and 16 in a boys' industrial school[2]. Another outbreak emerged a week later in Lanarkshire, south-west of Glasgow, affecting 280 people in two industrial schools, a public school,[3] and a hosiery manufacturer. There were eight deaths, seven from one school and one from the other.

> …it has been ascertained that a boy resident in the infected industrial home stayed at the Lanarkshire Orphanage from May 10th to 15th, the first case occurring there in the person of the boy who slept in the same dormitory. Further, there is constant communication between this Glasgow home and a Lanarkshire school where there were 80 cases and 1 death (*ibid*.).

Dr MacLean also records that, 'Similar outbreaks have occurred at intervals in several industrial schools throughout the country'. The lack of social distancing afforded by the living arrangements, and other inadequate sanitary and care practice, inevitably contributed to the infections and resulting deaths, but another relevant factor noted in Dr MacLean's report is the 'constant communication' between different centres, thus spreading the infection.

[2] Industrial schools, originating in the mid-19th Century, were the predecessors of today's residential schools.

[3] A term not to be confused with its use to denote a class of English boarding school; public schools in Scotland were the predecessors of today's local authority schools.

To mark the centenary of the 1918 influenza pandemic, *The Daily Express* published a detailed account of the Lanarkshire outbreak, revealing for the first time the names of the eight young people who died, all residents at the Smyllum Orphanage[4] in Lanark, run by the Daughters of Charity of St. Vincent de Paul (Borland, 2018).

The Smyllum children

Ben Borland's report lifts the children from obscurity as 'victims' of the pandemic to the status of real people with families who were almost certainly under stress as a result of poverty, war and the disease itself. The names of the children who died and their parents are shown in Figure 1.

Figure 1 The children of Smyllum Orphanage who died of 'Spanish Flu'

David Clabby (15), son of Patrick, general labourer and Rose

Daniel Daisley (11), son of William, coal miner, deceased and Margaret Mulgrew

James McBrian (13), son of William, shipyard worker, deceased and Bridget

Patrick Gaffney (13), son of James, quarry miner, deceased and Mary

Robert Woods (13), parents unknown

John Donaghy (12), parents unknown

Francis McLuskie (9), son of Edward, coal miner, and Bridget, deceased

[4] Smyllum Orphanage, later named Smyllum Park, was a residential home and school for children which closed in 1981. In 2018 the Scottish Child Abuse Inquiry found that children at Smyllum had been sexually abused and beaten with leather straps, hairbrushes and crucifixes.

A ninth child, Nicholas Quinn (8), also died during the epidemic, though the cause of his death was tuberculosis. Borland reports that the children, 'would most likely have been buried in the common ground at St. Mary's cemetery [and] at least 400 youngsters from Smyllum had been interred there between 1864 and 1981' (*ibid*., p. 5).

The Smyllum children were, in today's terminology, 'looked after', in the sense that they were placed on behalf of the State in an institution supposed to be a place of safety and education. More recent revelations show that Smyllum was anything but safe. The young people who died, and others who were infected but recovered, may have been in poor physical health as a result of the circumstances which led to their placement at Smyllum, but the reference in Dr MacLean's report to 'constant communication' between different centres suggests that infection control practices at the orphanage were inadequate.

MacLean's report also mentions infections in several other unnamed industrial schools in Scotland. The research for this article is based on online sources only. We are aware that the National Records of Scotland has extensive archives on orphanages, other children's homes, and industrial schools across Scotland at the time of the Spanish Flu epidemic. These include health, sanitation and school inspections as well as death certificates between 1918 to 1920. When the NRS and local libraries re-open after the Covid-19 crisis we will be able to investigate these physical records in detail. It may be that we also need to look in reports by medical officers of health and other local archives, and we welcome any advice or more detailed information from readers.

Newspaper reports

Searches in the British Newspaper Archive uncovered many brief and factual accounts of the disease and efforts to control it.

Red Cross workers making anti-influenza masks during the 1918 pandemic. Source: National Archives, image identifier: 454993341

The *Carluke & Lanark Gazette* on 25 May 1918 reported on an outbreak of influenza at Smyllum Orphanage. Five children had died and, in every case, this was due to peritonitis resulting from influenza. The cases were chiefly in the boys' dormitory but later a number of girls were infected.

The *Hamilton Advertiser* on 21 September 1918 covered a full report from the medical officer of health on the infectious sickness at the Smyllum Orphanage. A total of 186 children had been affected and there had been nine deaths, eight from influenza.

The *Aberdeen Evening Express* on 15 October 1918 reported that there were now about 5,000 children and some 90 staff absent from schools in the Aberdeen School Board area. As a consequence, the Board resolved to close all primary schools for two weeks until the morning of Monday 29 October 1918. Secondary schools in Aberdeen remained open, despite having many absences.

The *Aberdeen Evening Express* on 18 October 1918 summarised the influenza situation elsewhere in Scottish schools. It was confirmed that the disease had broken out in one of the major boarding schools in Edinburgh. There were many cases in the Glasgow School Board area but no schools had closed. All schools, however, were closed in the Govan School Board area.

The *Dundee Evening Telegraph* on 18 October 1918 carried a public notice: 'Dundee Industrial Schools. Owing to the outbreak of influenza no visitors will be allowed at Balgay and Baldovan Schools. Signed: Jas Winchester, Sec.'

The Motherwell Times on 25 October 1918 reported that owners of places of entertainment were asked to pay particular attention to the cleanliness, ventilation and disinfection of their premises, but the medical officer of health was not convinced that closing schools would be effective in preventing the spread of the disease. Nevertheless, schools were closed for varying periods across Scotland, depending on local judgement.

The *Fraserburgh Herald & Northern Counties Advertiser* on 29 October 1918 reported that the 'dreaded influenza' had returned in epidemic form with 'dozens of fresh cases and hundreds of people laid aside'. School attendance at the North School fell to 72% and the county medical officer ordered closure of all schools for two weeks. *The Scotsman* on 31 October 1918 reported that the medical officer of health for the city of Edinburgh had recommended that all schools be closed for three weeks and that children under 15 should be prohibited from attending picture houses.

Local newspapers across Scotland were reporting similar actions in the following weeks and months. *The Arbroath Herald and Advertiser for the Montrose Burgh*s on 13 December 1918 reported a proposal for converting soldiers' gas masks into influenza masks and noted that the local Red Cross Society branch was busy making anti-influenza masks.

By late autumn 1918, newspaper accounts contained reports of mass deaths. *The Scotsman* on 5 November 1918 reported 257 deaths in the previous two weeks in Edinburgh, another 51 in one week in Leith, 55 deaths in a two-week period in Linlithgow, 26 in Falkirk and 50 in Aberdeen. On the same day, the *Dundee Courier* reported that thousands in the city were affected and medical staff were overwhelmed, and a request was being made for help from army doctors and nurses.

The *Kirkintilloch Herald* on 1 January 1919 reported under the heading 'Education', somewhat unbelievably, 'there was nothing exciting in the annals of the School Board during the year'. As an afterthought, the writer added, 'Influenza in these last weeks has had a disorganising effect, but happily the epidemic is passing away, and normal conditions may be anticipated with the reopening after the New Year holidays'. But, as further reports testify, the infections, and deaths, continued.

The *Aberdeen Daily Journal* on 25 July 1919 reported on the annual meeting of the Aberdour Orphanage. The local medical officer, Dr Sellar, reported that there had been only three fatalities at the orphanage during the past year. It is not known whether these deaths were due to influenza.

The *Dundee Evening Telegraph* on 15 October 1919 reported on the annual meeting of the Dundee Orphan Institution. This included the news that there had been 75 children in the house during the year. The influenza outbreak in October 1918 had resulted in 54 cases amongst the children and staff but there were no fatalities.

Our searches in the archive have so far turned up no other reports specifically on the effects of the 1918 epidemic on children looked after in institutions in Scotland but we plan to continue our research.

Conclusion

The history of the 'Spanish Flu' pandemic of 1918-1920 covers eerily familiar territory for us a century later living through another virus-borne pandemic. Shops, bars, restaurants, places of worship, schools and workplaces closed, opened and closed again. People were urged not to cough and sneeze in their hands and then shake hands with others without washing. The debate about the efficacy of face covering then would be familiar now.

Apparently in a reverse of today's infection spread, the peak of the 1918-1920 influenza epidemic reached Scotland earlier than England and Wales, and, '…urban areas, coastal areas and areas well-served by mass communication and transport links [of Scotland] suffered higher mortality than rural, inland and isolated areas' (Johnson, 2004, p. 220). While the official, registered mortality attributed to the pandemic in Scotland was 17,575, Johnson has used the 'excess deaths' methodology to estimate the likely death toll of the 1918 pandemic as being in the range 29,000 to 35,000. It may have been much higher, possibly double that amount, according to (Butler & Hogg, 2007), who also note that there were more than 1,000 deaths in the years following the pandemic caused by a complication, encephalitis lethargica, with people suffering from this condition still alive into the 1950s. On 20 May 2020, statistics published by the National Records of Scotland showed that 3,546 people had died with Covid-19.[5]

[5] https://www.nrscotland.gov.uk

Awareness of the importance of public hygiene was different in 1918, and none of the accounts we have read mentions hand washing, or the use of alcohol gels. A century ago, great store was placed on the disinfection of public buildings and the virtues of fresh air through the use of open windows. It was also recommended by doctors that people sniffed up a salt solution twice daily, gargled with permanganate of potash, and soaked their handkerchiefs with eucalyptus, pine nuts, or iodine.

But, like today, people touted fake remedies. Butler and Hogg (*ibid*.) note that the politician Sir Frederick Milner wrote to *The Scotsman* recommending an oral preparation containing carbolic acid, a treatment rejected by the president of the Pharmaceutical Society of Great Britain North British branch as dangerous. The *Wishaw Press* on 7 March 1919 reported that Mr Nicol, Sanitary Inspector, had arranged the preparation of a special chamber into which children would be taken to breath Formalin, a solution of formaldehyde and water!

Coverage of the pandemic in the Press was not as forensic as today's, either because people were weary of the reports of deaths of soldiers or because of political pressure to underreport the threat. Medical services were severely under strength because so many doctors and nurses were serving in the army and navy. Subsequent studies of the experiences of the 1918-20 pandemic have considerably influenced the development of virus science and current public health approaches to COVID-19.

References

Boast, A., Munro, A., & Goldstein, H. (2020). An evidence summary of paediatric COVID-19 literature *Don't Forget the Bubbles*. doi:10.31440/DFTB.24063

Borland, B. (2018). First British Spanish flu pandemic victims were children at Scottish orphanage. *Express*. Retrieved from https://www.express.co.uk/news/uk/955767/spanish-flu-first-british-victims-smyllum-park-infamous-pandemic-scotland

Butler, A. R., & Hogg, J. L. (2007). Exploring Scotland's influenza pandemic of 1918-19: Lest we forget. *Journal of the Royal College of Physicians of Edinburgh, 37*, 362-366.

Flecknoe, D., Wakefield, B. C., & Simmons, A. (2018). Plagues & wars: The 'Spanish Flu' pandemic as a lesson from history. *Medicine, Conflict and Survival, 34*(2), 61-68. doi:10.1080/13623699.2018.1472892

Johnson, N. P. A. S. (2004). Scottish 'flu: The Scottish experience of 'Spanish flu'. *The Scottish Historical Review, LXXXIII*(216), 216-226.

Liverpool, L. (2020). Why don't children seem to get very ill from the corona virus? *New Scientist*. Retrieved from https://www.newscientist.com/article/2237259-why-dont-children-seem-to-get-very-ill-from-the-coronavirus/

MacLean, A. (1918). Outbreak of an acute febrile disease in three factories and an industrial school in Glasgow. *The Lancet, 192*(4950), 36. doi:10.1016/S0140-6736(00)53553-3

Mamelund, S. (2017). Profiling a pandemic. *Natural History, September*, 6-10.

Martini, M., Gazzaniga, V., Bragazzi, N. L., & Barberis, I. (2019). the Spanish flu influenza pandemic: A lesson from history 100 years after 1918. *Journal of Preventive Medicine and Hygiene, 60*(1), E64-E67. doi:10.15167/2421-4248/jpmh2019.1.1205

National Centre for Immunisation Research and Surveillance. (2020). COVID-19 in schools: The experience in NSW. Retrieved from http://ncirs.org.au/sites/default/files/2020-04/NCIRS%20NSW%20Schools%20COVID_Summary_FINAL%20public_26%20April%202020.pdf

Oxford, J. S., Sefton, A., Jackson, R., Inness, W., Daniels, R. S., & Johnson, N. P. A. S. (2002). World War I may have allowed the emergence of 'Spanish' influenza. *The Lancet Infectious Diseases, 2*, 111-114. doi:10.1016/S1473-3099(02)00185-8

Rosner, D. (2010). 'Spanish flu, or whatever it is…': The paradox of public health in a time of crisis. *Public Health Reports, 125*, 37-47.

Royal College of Paediatrics and Child Health. (2020). COVID-19: Research evidence summaries. Retrieved from https://www.rcpch.ac.uk/resources/covid-19-research-evidence-summaries#transmission

Worldometers. (2020). COVID-19 Coronavirus pandemic. Retrieved from https://www.worldometers.info/coronavirus/

Worobey, M., Han, G. Z., & Rambaut, A. (2014). Genesis and pathogenesis of the 1918 pandemci H1N1 influenza: A virus. *Proceedings of the National Academcy of Sciences of the United States of America, 111*(22), 8107-8112. doi:10.1073/pnas.1324197111

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