# COVID-19, education and child health

Jatinder Hayre

## INTRODUCTION

'Ignorance', as outlined in the landmark Beveridge Report of 1942, is a giant to be slain: education as a compelling social determinant of health has long been recognised. More contemporarily, the UN Convention on the Rights of the Child has outlined the *right to education* as a key immutable human right. The COVID-19 containment measures within the UK, involving the cessation of routine educational activity and school closures, contravened the fundamental right to education on a historic scale, and marks the largest post-WWII regression in educational equity.

Education is both a *process* and a *product*. Social determinants are a prerequisite for the education process and product, this includes family income, social security, geographical location and stable housing. The process of education is largely mediated by formal education received in the formative years of schooling; while the product of an education is a personal attribute founded on the array of skills and knowledge formed by the process.[1] The educational process, via schooling, is associated with the promotion of better mental well-being, provision of physical activity, provision of good nutrition and educating children on personal, social and health education.[2] Additionally, the product of education on individuals is strongly associated with intergenerational socioeconomic mobility through enhanced employment opportunities and income in adult life. This is illustrated in figure 1. The cumulative impact of this is associated with increased life expectancy, reduction in morbidity and health enriching behaviours. Education as a process and a product is a key investment in long-term individual and public health.

The 'insurmountable' educational loss: with 99% of school pupils being locked down in the UK,[3] and a global loss of 1.8 trillion hours of learning, from March 2020 to September 2021.[4] Globally, 191 countries closed their schools in the first COVID-19 lockdown, in 2020: affecting 1.6 billion children[5]: marking a historic disruption to children's education. The UK Government followed the direction of most other countries to close schools; however, the initial modelling produced mixed results.[6] International epidemiological studies demonstrate no causal effect of school closures on the transmission of COVID-19[7] and no rigorous harm–benefit analysis was taken by the UK Government.[8] The overall consequences of school closures are distributed in an inequitable manner along socioeconomic lines, with the poorest children shouldering the greatest burden. COVID-19 has exposed and exacerbated pre-existing inequalities in education and the interaction among COVID-19, education and inequality marks a dangerous triad for child health and health inequalities.

## EDUCATIONAL PRODUCT: WIDENING EDUCATIONAL ATTAINMENT, WIDENING HEALTH INEQUALITIES

The Government's austerity agenda had led to severe, disproportionate cuts to school funding in the UK, thus in 2019, it was memorably projected to take 500 years to eliminate the education inequality gap.[9] Naturally, this provides an insecure substrate to support learning in an equitable manner through the pandemic.

Children from socioeconomically disadvantaged backgrounds faced additional challenges arising from lockdown measures. First, the transition to online learning highlighted the stark digital divide along socioeconomic lines, with 27% of the most financially vulnerable children lacking access to a suitable device for online learning: becoming the digitally excluded.[10] The burden from loss of learning was not shouldered equally; with 74% of private school students benefitting from full school days remotely, contrasted with a mere 38% of state school students.[11] Strikingly, 38% of school pupils, approximately 2 million, had no formal schooling or tutoring whatsoever during lockdown.[12] In addition to enhanced remote education, children from the more affluent families are two times as likely to receive private tutoring: broadening inequality further.[13] The distribution of time in education is summarised in figure 2. Additional disadvantaging factors had also widened the educational gap in financially disadvantaged children: lack of parental education to facilitate learning, lack of adequate study space and deteriorating family finances.

The long-term consequences of low educational attainment in adulthood involve lower life expectancy, increased risk of all-cause mortality and worse outcomes for morbidities such as chronic kidney disease and cardiovascular disease. The inequalities experienced throughout lockdown are further embedded by post-pandemic per pupil spending declining by 14% in the most deprived schools compared with the least deprived at 9% reductions.[14] This is despite the goliath challenge to address the educational impacts of COVID-19 on children from the most deprived households.

## EDUCATION AS A PROCESS: BEYOND THE ACADEMIC

The 1978 Alma Ata International Conference on Primary Health Care defines the concept of *health* to include: 'a state of complete physical, mental and social well-being'. The process of education through formal schooling generates health within all three domains. Physical activity and provision of good nutrition combined with social well-being.

Schooling has the ongoing benefit of providing physical education (PE) to children as a compulsory subject in all four key stages in the national curriculum, as well as a general increase in mobility through recess and travel to and from school. The general consensus of a decline in energy expenditure being a driver of childhood obesity is well-recognised. Yet, even before the pandemic, children on free school meals (FSM) faced significant individual and systemic barriers in accessing PE.[15] The cessation of PE and school closures has resulted in a decrease in physical activity in children eligible for FSM, curiously non-FSM children showed a slight improvement in physical activity during lockdown. The COVID-19 containment measures led to FSM children being confined to a more 'obesogenic environment' than non-FSM children. The obesogenic environment stems from local neighbourhoods being perceived as less safe; therefore, restricting children indoors in houses more likely to be densely packed, crowded and lacking suitable outdoor space,[16 17] without school as a regular venue for recreational and formal physical activity. This contributes

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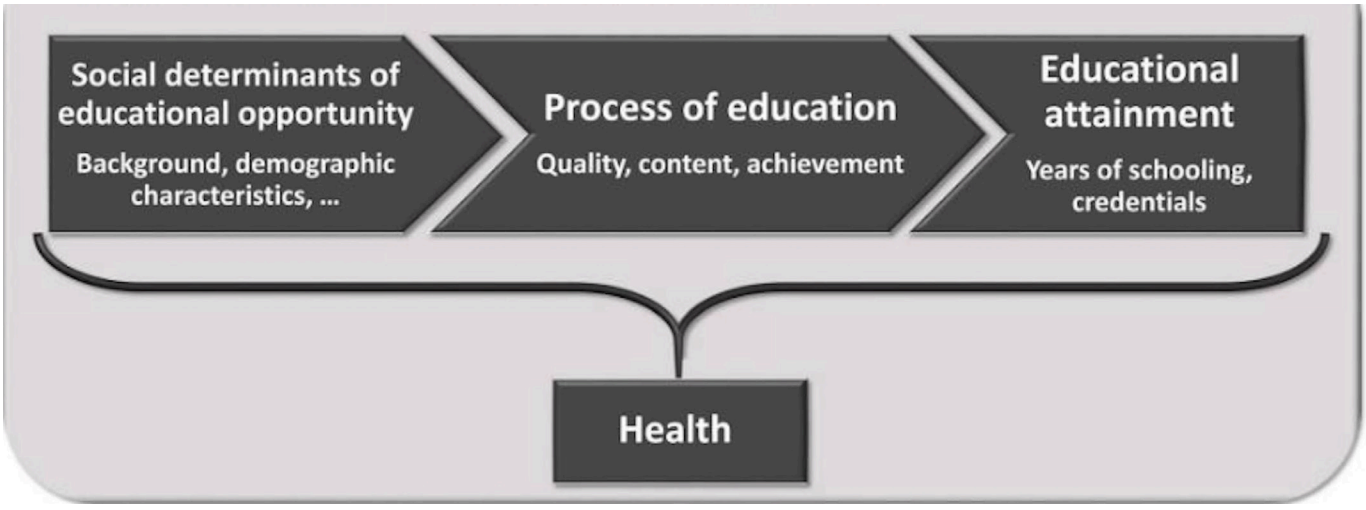


**Figure 1** The cumulative impact of educational opportunity, the process of education and the product of education on health creation.

to the pre-existing disparity seen in childhood obesity rates in year 6 between the most and least deprived: 26.9% vs 11.4%, respectively.[17] Following on from the COVID-19 pandemic, there has been a universal decline in physical activity among children in the UK[18]; a burden shared equally with an inequitable impact.

Schools have a central role to play in levelling food deprivation, with the most deprived having the most to gain from FSM: school meals and lunches should be viewed as a pivotal public health intervention. Food insecurity is associated with a myriad of childhood health consequences: increased mortality, dental issues, increased hospitalisation and asthma exacerbations. The long absence from school through the COVID-19 lockdowns has contributed to food insecurity and the continuing phenomenon of 'holiday hunger'. Even during usual times, 39% of sampled teachers report pupils not eating enough over the school holidays and of that 39%,

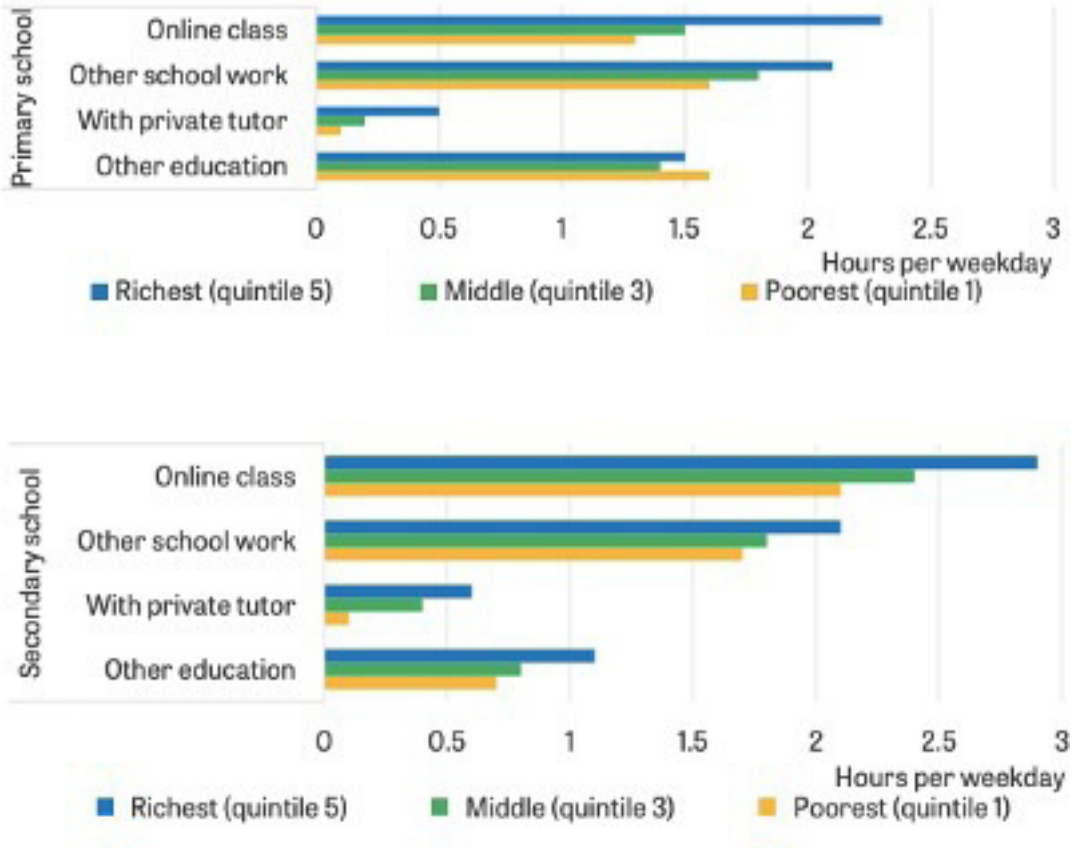


**Figure 2** The unequal distribution of time spent on educational activities and type of education activity by socioeconomic groupings.[8]

Table 1 Recommendations for paediatricians and allied health professionals to address child health inequalities

| Action | Impact |
|---|---|
| Recognition, advocacy and campaigning | 1. Recognising the existence of systemic inequality is vital. Recognising cyclical nature of health inequalities leading to education inequality; and educational inequalities leading to health inequality in the long term.<br>2. From recognition, comes advocacy and campaigning. The medical establishment can form a powerful campaigning instrument, particularly in alliance with mass media. Participation with and forming campaign groups is an excellent organisational method.<br>3. Campaigning within the political arena is pivotal. Parliamentary select committees invite expert written and oral evidence, issues such as child poverty are a chief area of interest. Parliamentary groups, such as the 'All Party Parliamentary Group on Poverty' (APPG), are important to address the social determinants of health in children by focussing on understanding poverty and devising solution orientated policies. The APPG is particularly keen to draw on expertise outside of politics. |
| Research | 4. There is a relative paucity of research on the intersection of education and child health; given its indispensable importance. Paediatricians and allied health professionals should involve themselves with qualitative and quantitative research to better understand the mechanism of education inequalities on child health inequality.<br>5. Qualitative research is necessitated to better understand the effect of social stratifying processes, such as education, on the outcomes of paediatric clinical practice. While quantitative research can assess the potential effect of clinical interventions aimed to reduce health inequalities secondary to educational inequalities. |
| Quality Improvement and Infrastructure Development | 6. Furthermore, performing quality improvement projects to harness knowledge and data, and incorporate this into developing a local health services and healthcare delivery systems which mitigate inequalities.<br>7. The importance of collaboration among paediatricians, public health physicians and education leaders in codeveloping this infrastructure cannot be understated: these partnerships can yield a powerful force for equitable child health, addressing the social determinants of health such as education. |
| Medical Education | 8. The doctors and healthcare leaders of tomorrow should be taught the central role inequality, including inequalities within the education system, plays in mediating disease processes. Paediatricians should embed themselves within the medical education system and teach on the social determinants of health, thus equipping tomorrow's doctors with a toolkit to navigate health inequalities. |

36% of teachers report their pupils are noticeably thinner after school holidays.[19] School closures were devastating for food insecurity. In the first 6 months of the pandemic, an unprecedented one-in-four children, approximately 3 million had faced some form of food deprivation.[20] The Government's intervention of a £15 weekly meal voucher was not a sufficient replacement for a school meal, and accessibility was poor: half of entitled children did not receive their eligible voucher.[21]

The COVID-19 social distancing measures led to prolonged periods of isolation due to being out of education and complete disruption to mental health services: leading to a nosedive in the mental health and well-being of young people. Going into the pandemic with children from the poorest 20% of households being four-times more likely to be diagnosed with a mental illness compared with the richest 20% of children created a substrate for the proliferation of a mental health epidemic: of disproportionate magnitude.[22] Evidence from the COVID-19 pandemic demonstrates that education as a process is closely tied to well-being, with schools being a venue for social contact and participation in socialisation and development of executive function. A systematic review outlined both in the UK and internationally of adverse mental health outcomes from school closures. And following on from the pandemic, an astounding 900 000 hours have been spent by children in A&E due to a mental health crisis in a single year: a number that is worryingly increasing.[23]

## CONCLUSION

The giant of 'ignorance' stands taller than ever, 80 years on from the publication of the Beveridge Report. Education in the UK tells the tale of society at the mercy of gross inequity; exacerbated by the COVID-19 pandemic. Medical professionals, with a spotlight on paediatricians, have a vital role in addressing the inequity within the British education system. Medical professionals have unique insight into both the pathological basis of disease borne of inequity; as well as the social processes mediating and propagating them. A range of actions that can be taken by paediatricians and allied healthcare professionals and their resultant impact are highlighted in table 1, to address the goliath challenge of rising educational inequalities in the aftermath of COVID-19. A 'return to normal' simply is not good enough, equity in the process and products of education must be the bedrock of Government policy and the medical establishment to truly 'build back better'.

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