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International Health

International Horizon Scanning and Learning to Inform Wales' COVID-19 Public Health Response and Recovery

Report 37, 27/01/2022

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Iechyd y Byd ar Fuddsoddi
ar gyfer Iechyd a Llesiant



World Health Organization
Collaborating Centre on Investment
for Health and Well-being

Overview

The International Horizon Scanning and Learning work stream was initiated as part of the COVID-19 public health response, to support response and recovery measures and planning in Wales.

The learning and intelligence is summarised in regular reports to inform decision-making. These may vary in focus and scope, depending on the evolving COVID-19 situation and public health/policy needs. The reports focus on COVID-19 international evidence, experience, measures, transition and recovery approaches. Evidence is provided to help understand and explore solutions for addressing the on-going and emerging health, well-being, social and economic impacts (potential harms and benefits) of COVID-19.

This work is aligned with and feeds into the Welsh Government Office for Science and into Public Health Wales Gold Command. It is part of a wider Public Health Wales' systematic approach to intelligence gathering to inform comprehensive, coherent, inclusive and evidence-informed policy action, which supports the Well-being of Future Generations (Wales) Act and the Prosperity for All national strategy towards a healthier, more equal, resilient, prosperous and globally responsible Wales.

Disclaimer: The reports provide high-level summary of emerging evidence from country experience and epidemiology; research papers (peer-reviewed/not); and key organisations' guidance/reports, including sources of information to allow further exploration. The reports do not provide detailed or in-depth data/evidence analysis. Due to the novelty of COVID-19 virus and the dynamic epidemiological situation, studies, data and evidence can be conflicting, inconclusive or out-of-date very quickly depending on country/other context.

In focus this week

 **The impact of COVID-19 on children**

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At a glance: summary of international learning on COVID-19

“Children and adolescents of all ages and in all countries are seriously suffering from the consequences of the pandemic. COVID-19-related measures are having a profound effect on their health and well-being and for some the impact will be lifelong.”
(WHO EURO)¹

The impact of COVID-19 on children

- ✚ The COVID-19 pandemic has had a significant impact on children, particularly with regard to mental well-being and child development.
- ✚ The economic impact of COVID-19 on household income has an impact on families, and therefore on children. Living in poverty directly impacts upon children’s experience of education, health, housing, nutrition and sanitation.
- ✚ Food insecurity for children is a serious public health issue, and the provision of nutritious, school meals for vulnerable children is an important measure to tackle this.
- ✚ There have been considerable shifts in play activities in children, with active outdoor play being replaced by indoor activities: opportunities to play outdoors need to be re-introduced and bolstered to support child development and mental well-being.
- ✚ The decrease in physical activity and increase in sedentary behaviour in children should not become the new norm, urgent and sustained effort is needed to redress this or serious health issues will be stored up for the future.
- ✚ The confidence that women have in their maternity services being provided in a ‘COVID secure’ environment is key to boosting attendance at these important appointments and essential to helping children have the best start in life.
- ✚ Countries such as USA, Canada and Brazil are all vaccinating children from 5 years up, and research is underway on COVID-19 vaccination for children under 5 years. Policy makers will need to consider the broad risk-benefit balance when considering the vaccination of children.

More information is summarised on pp. 4-15

¹ [WHO/Europe | Child and adolescent health - COVID-19 and Children](#)

The impact of COVID-19 on children

While the majority of direct impacts as a result of the COVID-19 pandemic have affected older age groups,² the impact of the pandemic on children has also been significant, particularly with regard to mental well-being and child development. The indirect impacts of the pandemic on families such as the economic consequences are likely to be felt for years to come and will affect whole families, including children.³

The direct impacts of COVID-19 on children

While **children are less at risk of severe disease from COVID-19** in comparison to older age groups, **they remain just as susceptible to infection**^{4,5}. Less severe symptoms are also likely to have led to less testing; meaning **cases are likely to be under reported in children**.⁶

International evidence indicates that:

- Large **majority of infections (>95%) in children under five** were found to have a **community source**⁷
- Paediatric patients with COVID-19 may experience milder illness with **atypical clinical manifestations**⁸
- **Infants aged <12 months** were found to be **most likely to require hospitalisation among paediatric age groups**⁹
- **Obesity and diabetes are significant indicators of increased risk of severe COVID-19 in children**^{10,11}

Analysis of hospital patient data has identified that:

- In the United States (US), among 4,573 hospitalised paediatric patients aged 0-11 years, 68.0% were 0-4 years and 32.0% were 5-11 years¹²
- In the US, the three day risk of outcomes were reviewed for different periods (i.e. when Delta variant was predominant and again when Omicron variant was predominant and this study found **less Emergency Department visits (21.01% vs 3.89%) and hospitalisation (2.65% vs 0.96%) for 0-4 year olds for the Omicron variant**¹³

Child mortality

Younger children, school children and adolescents commonly report fewer and milder symptoms of COVID-19 than adults and appear to be largely spared the direct mortality impacts of COVID-19. However, **the indirect effects of the pandemic impact the health of children, both immediately and over time**.^{14,15} Loss of household income and disruptions to health services such as immunisation and antenatal care, can result in increases to child mortality:

- World Vision International predict that as many as 30 million **children's lives, across the 24 countries prioritised by the UN, are in danger from secondary health impacts**, as a result of economic and food insecurity; increased risk of violence,

² <https://bmjopen.bmj.com/lookup/doi/10.1136/bmjopen-2021-022613>

³ [The COVID-19 pandemic and its potential enduring impact on children](#)

⁴ [SARS-CoV-2 \(COVID-19\): What Do We Know About Children? A Systematic Review](#)

⁵ [Clinical characteristics of COVID-19 in children: A systematic review](#)

⁶ [COVID-19 disease in children and adolescents: Scientific brief, 29 September 2021](#)

⁷ [Epidemiology of COVID-19 infection in young children under five years: A systematic review and meta-analysis](#)

⁸ [A systematic review and meta-analysis of children with Coronavirus Disease 2019 \(COVID-19\)](#)

⁹ [Risk Factors for Severe COVID-19 in Children](#)

¹⁰ [Severe Acute Respiratory Syndrome Coronavirus 2 Clinical Syndromes and Predictors of Disease Severity in Hospitalized Children and Youth](#)

¹¹ [Epidemiology, Clinical Features, and Disease Severity in Patients With Coronavirus Disease 2019 \(COVID-19\) in a Children's Hospital in New York City, New York](#)

¹² [COVID-19-Associated Hospitalizations Among Children Less Than 12 Years of Age in the United States](#)

¹³ [Comparison of outcomes from COVID infection in pediatric and adult patients before and after the emergence of Omicron](#)

¹⁴ [Child mortality and COVID-19 - UNICEF DATA](#)

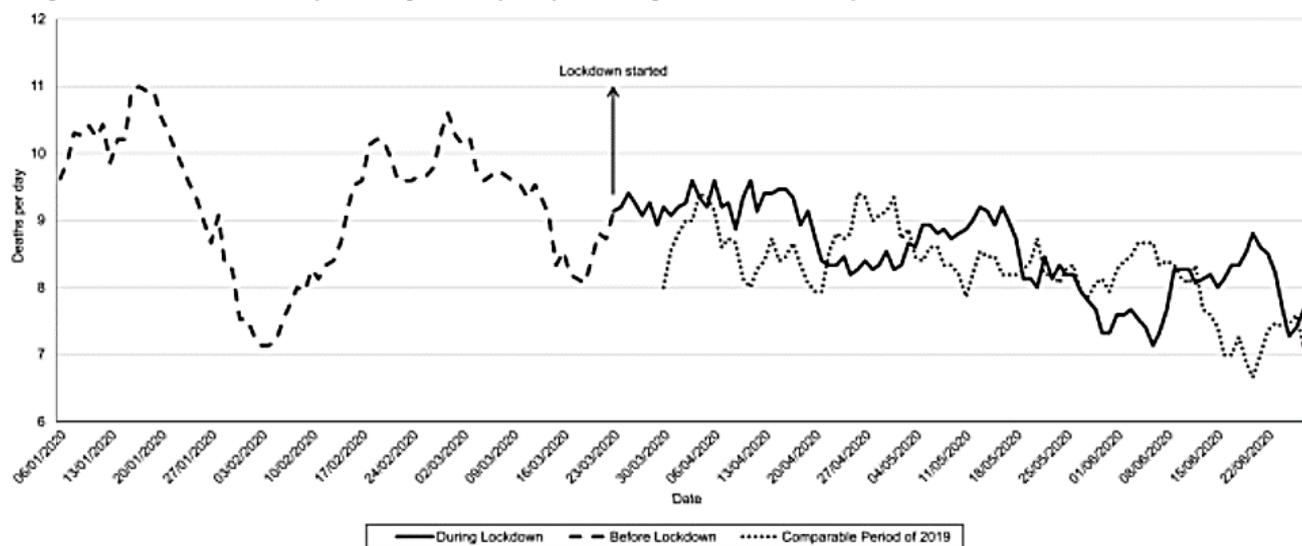
¹⁵ [COVID-19 and children - UNICEF DATA](#)

neglect, abuse and exploitation; and the interruption or total breakdown of essential services including formal and informal education and health systems being overwhelmed by COVID-19 patients¹⁶

- In 2020, the number of completely unvaccinated children increased by 3.4 million globally which is likely to have an impact on mortality over time¹⁷

In England, children from an ethnic minority background were found to be more likely to test positive for COVID-19, which is consistent with the findings in adults,¹⁸ however, child mortality did not change significantly during the pandemic (figure 1).

Figure 1: Child mortality in England by day, during the COVID-19 pandemic¹⁹



Stillbirths

Evidence regarding the impact of COVID-19 on pregnancy outcomes is still limited. However, globally **due to weakened healthcare systems and reduced access to quality care essential maternal and new-born services are less readily available to mothers and children:**²⁰

- This may in part be due to reduced transport options and a fear of contracting the virus amongst pregnant women
- UNICEF estimate that **there could be between 60,000–200,000 additional stillbirths globally due to the impact of COVID-19 on healthcare services**²¹ (figure 2)

¹⁶ [COVID-19 AFTERSHOCKS- SECONDARY IMPACTS THREATEN MORE CHILDREN'S LIVES THAN DISEASE ITSELF.pdf \(wvi.org\)](#)

¹⁷ [Levels and trends in child mortality - UNICEF DATA](#)

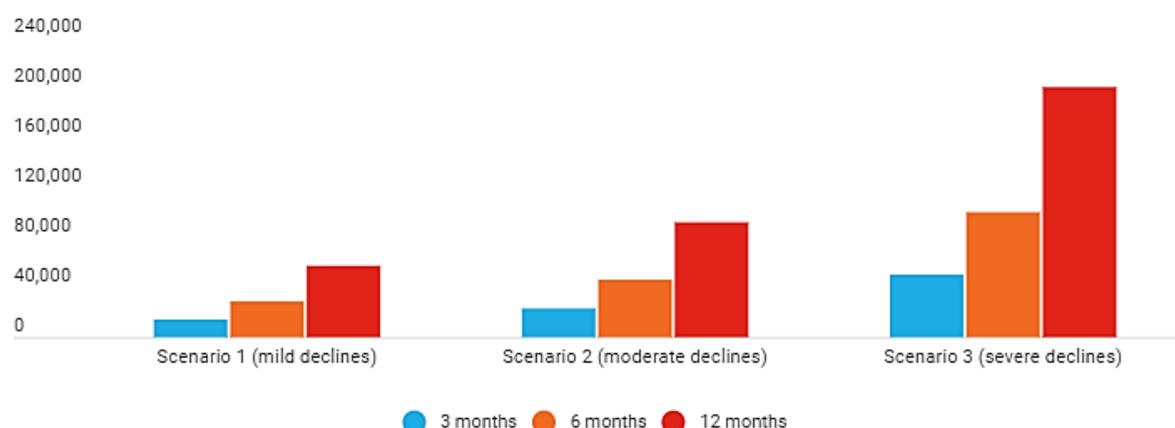
¹⁸ [Child mortality in England during the COVID-19 pandemic](#)

¹⁹ [Child mortality in England during the COVID-19 pandemic](#)

²⁰ [A Neglected Tragedy: The global burden of stillbirths - UNICEF DATA](#)

²¹ [A Neglected Tragedy: The global burden of stillbirths - UNICEF DATA](#)

Figure 2: Scenario based model of the possible effects of reduced key intervention coverage on stillbirths²²



Source: United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), 'A Neglected Tragedy: The global burden of stillbirths', United Nations Children's Fund, New York, 2020.

Note: Mild declines in coverage (around 15 per cent); Moderate declines in coverage (around 25 per cent); Severe declines in coverage (around 50 per cent)

- Table 1 highlights country specific findings regarding changes to the number of recorded stillbirths during the pandemic

Table 1: Country specific evidence regarding stillbirths

Country	Evidence
Italy	Data from the Lazio region of Italy indicated an increase in stillbirth of almost three times in 2020 when compared to data from 2019. These figures may not be a direct consequence of COVID-19 infections, but rather a consequence of induced life changes from lockdown periods, in particular caused by reduced visits to hospitals due to the fear of contracting the COVID-19 infection ²³
England	A study of pregnancy outcomes as London's St George's University Hospital found the incidence of stillbirth to be significantly higher during the pandemic ; 9.31 per 1000 births compared to 2.38 per 1000 births pre-pandemic. None of the pregnant women who experienced stillbirth had symptoms suggestive of COVID-19 ²⁴
USA	A study conducted across two Philadelphia hospitals did not detect significant changes in preterm or stillbirth rates during the pandemic when compared to pre-pandemic data ²⁵
Israel	A study of singleton births at Shamir Medical Centre in Israel found there to be a significantly higher rate of stillbirth in 2020, during the 'peak COVID period' (0.4%) when compared with figures from the same time period in 2017-19 (0.1%). All patients tested negative for COVID-19, suggesting that the pandemic stay-at-home policy combined with patient fear of contracting the disease in hospital could explain the associated higher rate of stillbirth ²⁶
Nepal	Data across nine hospitals in Nepal revealed that the institutional stillbirth rate increased from 14 per 1000 total births before lockdown to 21 per 1000 total births during lockdown . Similarly, institutional neonatal mortality increased from 13 per 1000 livebirths before lockdown to 40 per 1000 livebirths during lockdown ²⁷

²² [COVID-19 and children - UNICEF DATA](#)

²³ [Increase of stillbirth and decrease of late preterm infants during the COVID-19 pandemic lockdown | ADC Fetal & Neonatal Edition \(bmi.com\)](#)

²⁴ [Change in the Incidence of Stillbirth and Preterm Delivery During the COVID-19 Pandemic | Neonatology | JAMA | JAMA Network](#)

²⁵ [Changes in Preterm Birth Phenotypes and Stillbirth at 2 Philadelphia Hospitals During the SARS-CoV-2 Pandemic, March-June 2020 | Neonatology | JAMA | JAMA Network](#)

²⁶ [s-0040-172.1515.pdf \(thieme-connect.de\)](#)

²⁷ [Effect of the COVID-19 pandemic response on intrapartum care, stillbirth, and neonatal mortality outcomes in Nepal: a prospective observational study \(thelancet.com\)](#)

Vaccination

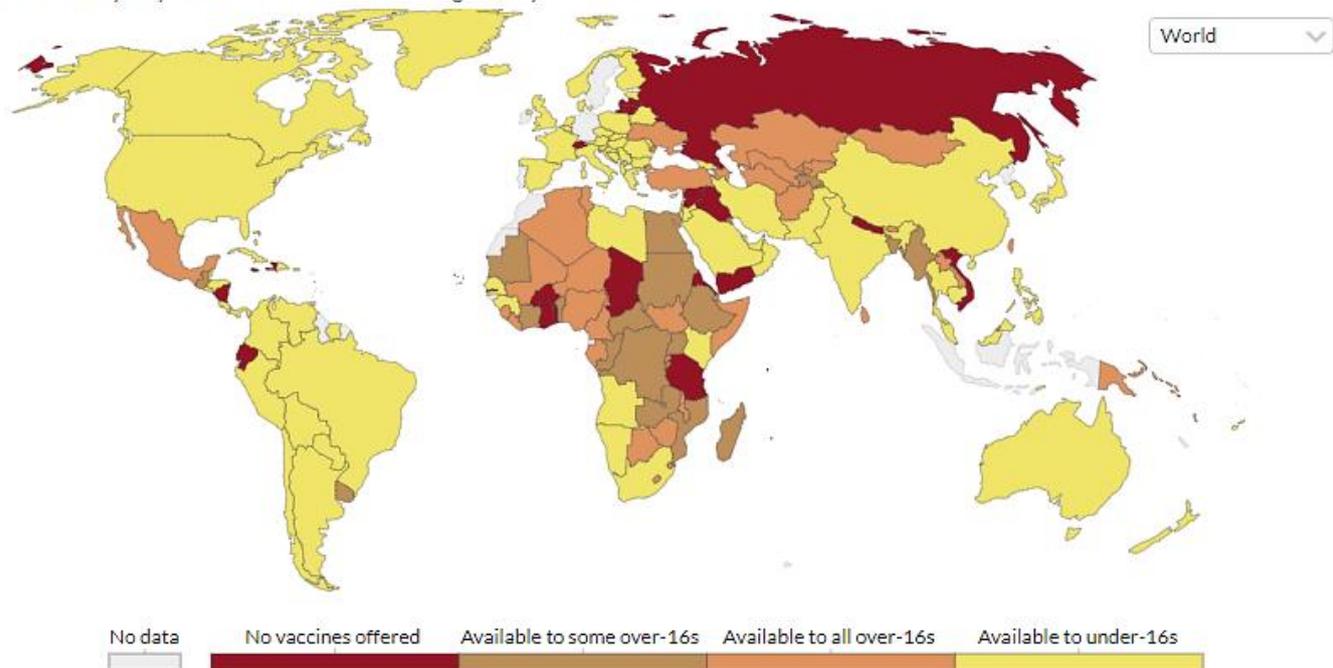
While mass vaccination remains a key strategy to reducing harm from the COVID-19 pandemic. **The availability of vaccines and willingness to vaccinate children and young people remains a key issue for policy makers. Vaccine availability for children and young people is not uniform globally** (figure 3).

Figure 3: Vaccine availability for children by country²⁸

Are children eligible for COVID-19 vaccination?, Jan 20, 2022

The youngest age threshold eligible for vaccination in each age group may vary. For example, a country coded as "available to under-16s" may only offer vaccination to children aged five years and older.

Our World
in Data



Some countries are already vaccinating children aged 5 upwards, e.g. USA, Canada and Brazil. There are ongoing trials for children under 5 years from numerous vaccine manufacturers.

The European Centre for Disease Prevention and Control has stated, “the main priority of COVID-19 vaccination campaigns seeking to reduce COVID-19-related morbidity and mortality remains to increase vaccine uptake in the eligible adult population. Before taking policy decisions on COVID-19 vaccination in children, potential harms and benefits – including the direct and indirect effects on health and well-being – should be considered alongside the vaccine uptake and epidemiological situation in a particular country.”

A pre-publication systematic review of **evidence relating to immunologic response, efficacy, and the safety of vaccines against COVID-19 in young people** concluded that: risk-benefit assessments revealed **favourable results for vaccinating children and adolescents, especially those with underlying disease, alongside adults to prevent transmission, severe infection, negative outcomes, and new variants formation.**²⁹

²⁸ [Are children eligible for COVID-19 vaccination?](#)

²⁹ [Immunologic response, Efficacy, and Safety of Vaccines Against COVID-19 Infection in Children and Adolescents Aged 2 – 21 years old: A Systematic Review](#)

The indirect impacts of COVID-19 on children

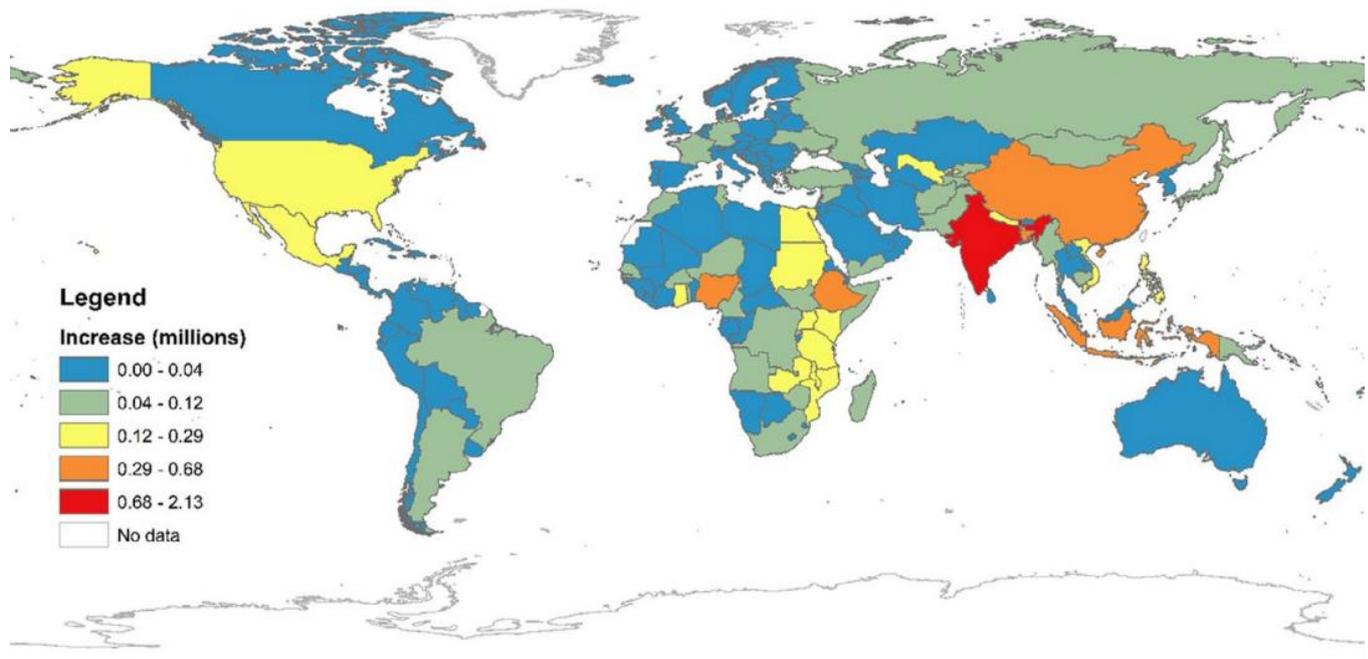
Early childhood development

During the pandemic, some households have been subject to a heightened amount of psychological, emotional, and financial stress: this has an impact on the children in those households. **Infants and children living with stress have the potential for delayed developmental milestones, difficulty with emotional regulation, and social or behavioural issues.**³⁰

The UK National Day Nurseries Association (NDNA) has revealed that the number of nursery closures in England increased by 35% during the height of the COVID-19 pandemic compared to the same period the previous year and that **closures were proportionately higher in more deprived areas, further exacerbating existing inequalities.**³¹

Global estimates indicate that days of pre-primary education lost to the pandemic will have a **significant impact upon both childhood development (figure 4) and future earnings.**³²

Figure 4: Predicted Increase in the number of children off track in their early childhood development due to COVID-19 related early childhood care and education closures between March 2020 – February 2021³³



³⁰ [The impact of the COVID-19 pandemic on infant and toddler de... : Journal of the American Association of Nurse Practitioners \(lww.com\)](#)

³¹ [Closures of nurseries increase as impact of pandemic takes hold \(ndna.org.uk\)](#)

³² [Global estimates of the implications of COVID-19 related preprimary school closures for children's instructional access, development, learning, and economic wellbeing \(nih.gov\)](#)

³³ [Global estimates of the implications of COVID-19 related preprimary school closures for children's instructional access, development, learning, and economic wellbeing \(nih.gov\)](#)

Mental health

The implementation of non-pharmaceutical intervention measures, and the interruption to daily routines, social interaction and physical activity levels, have had significant effects on the mental health of the population at all ages. Table 2 summarises evidence on the impacts of COVID-19 on the mental health of children, with a particular focus on younger children.

Table 2: Compilation of evidence on the effects of COVID-19 on children's mental health

Country	Area	Key Finding
China ³⁴	Behavioural and emotional disorders	Clinginess, difficulty in maintaining attention, and being irritable were common psychological conditions shown by all minors. Media entertainment was largely successfully used by families as a means to relieve distress.
Singapore ³⁵	Eating disorders	'Coronophobia' increased patients existing anxieties and had an impact on service delivery. Partnerships were created with school counselling and community services as part of significant changes in service delivery.
UK ³⁶	Young people mental health	Maintenance of social contact with families and friends by tele services or social platforms beneficial to help reduce stress. Excessive social media use should be under check.
US ³⁷	School closure	Advised that policy makers consider combinations of social distancing measures which are less disrupting if restrictive social distancing policies are needed for long periods.
US ³⁸	School closure	School routines central to children's mental health and to help structure their behaviour.
US ³⁹	General mental health	Pandemic has meant that delivery of services has had to adapt. This presents an opportunity to improve screening methods and tools to sooner identify and treat children with severe psychological burdens, toxic home environments or developmental concerns.
Multiple ⁴⁰	Problematic use of internet	Lockdown saw significant rise in problematic internet usage , especially children receiving too much screen time and enhancing/developing addictive behaviours towards the internet, games etc.
Multiple ⁴¹	School closure	Reduced physical activity , increased social media usage, increased anxiety and distress, while effects on sleep and diet appear inconclusive.
Multiple ⁴²	School closure	Anxiety, depression, irritability, boredom, inattention and fear of COVID-19 are predominant new-onset psychological problems.
Multiple ⁴³	General mental health	Increase in depressive and anxious symptoms in comparison to pre-pandemic
Multiple ⁴⁴	Behaviour	General increase in amount of sleep . More pronounced effect in European countries in comparison to Asian countries.

³⁴ [Behavioral and Emotional Disorders in Children during the COVID-19 Epidemic](#)

³⁵ [Caring for Children and Adolescents With Eating Disorders in the Current Coronavirus 19 Pandemic: A Singapore Perspective](#)

³⁶ [The Impact of Covid-19 on young people with mental health needs](#)

³⁷ [School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review](#)

³⁸ [Mental health effects of school closures during COVID-19](#)

³⁹ [The COVID-19 pandemic and its potential enduring impact on children](#)

⁴⁰ [Problematic use of the internet during the COVID-19 pandemic: Good practices and mental health recommendations](#)

⁴¹ [School Closures During Social Lockdown and Mental Health, Health Behaviors, and Well-being Among Children and Adolescents During the First COVID-19 Wave](#)

⁴² [Psychological and Behavioral Impact of Lockdown and Quarantine Measures for COVID-19 Pandemic on Children, Adolescents and Caregivers: A Systematic Review and Meta-Analysis](#)

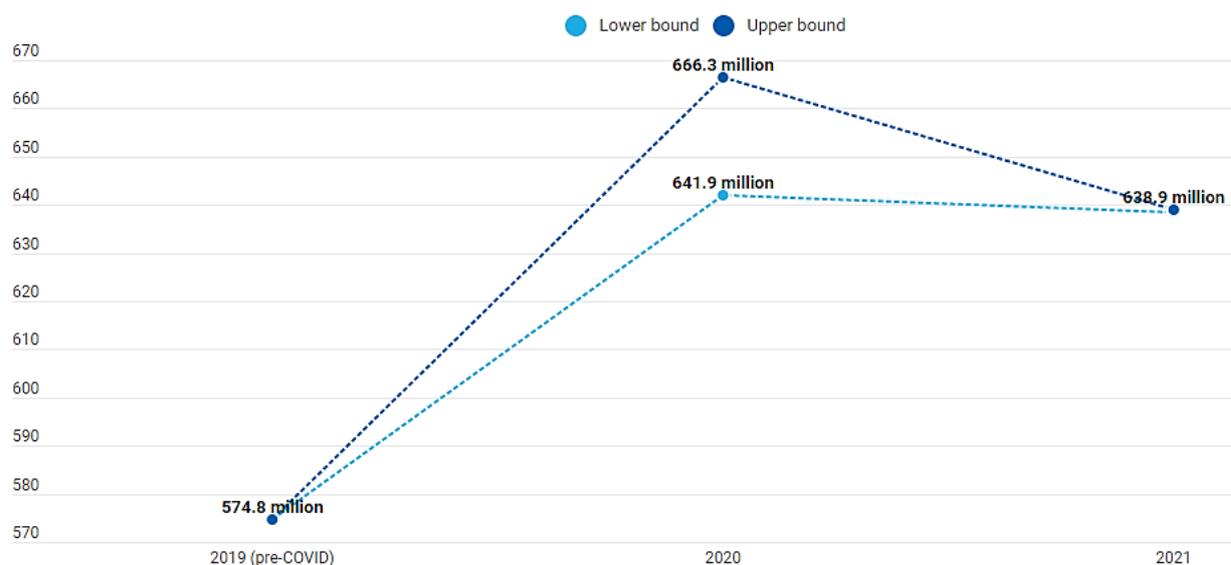
⁴³ [Review: Mental health impacts of the COVID-19 pandemic on children and youth - a systematic review](#)

⁴⁴ [Consequences of the COVID-19 Pandemic on Children's Mental Health: A Meta-Analysis](#)

Poverty

Poverty is a significant barrier to children enjoying their right to an adequate standard of living. **Poverty is associated with a wide range of negative consequences for children, including poor outcomes in cognitive development, achievement at school, health and development.** ⁴⁵ Many families across the globe are falling into poverty as a result of the COVID-19 pandemic. This is as a consequence of loss of **household income in combination with the economic recession.** UNICEF predicted that **by the end of 2021 an additional 60 million children could be living in monetary poor households worldwide**⁴⁶ (figure 5).

Figure 5: Number of children living in monetary poor households (2019 estimate and 2020-21 projections)⁴⁷



Source: Save the Children/UNICEF (2021), Impact of COVID-19 on children living in poverty: A Technical note

Living in poverty directly impacts upon children’s experiences of education, health, housing, nutrition and sanitation⁴⁸ but can also indirectly impact children, for example, through digital exclusion.

- The pandemic has exacerbated existing inequalities as household’s already experiencing poverty prior to the pandemic have little or no capacity to absorb sudden changes in income.⁴⁹
- **Previous recessions have exacerbated levels of child poverty with long-lasting consequences for children’s health, wellbeing, and learning outcomes**⁵⁰
- In Ukraine, absolute poverty is predicted to increase from 27.2% to 43.6% in the least severe scenario or 50.8% in the most severe scenario⁵¹
- The Children and Young People’s Commissioner for Scotland identified the difficulties children from low income families face in gaining **digital access and the impact this can have on education and exclusion**^{52,53}

⁴⁵ [CPM 2020 TECHNICAL REPORT.pdf \(otago.ac.nz\)](#)

⁴⁶ [COVID-19 and children - UNICEF DATA](#)

⁴⁷ [Impact of COVID-19 on children living in poverty - UNICEF DATA | COVID-19 and children - UNICEF DATA](#)

⁴⁸ [Impact of COVID-19 on children living in poverty - UNICEF DATA](#)

⁴⁹ [CPM 2020 TECHNICAL REPORT.pdf \(otago.ac.nz\)](#)

⁵⁰ [main.pdf \(nih.gov\)](#)

⁵¹ [COVID Impact on poverty - ENG \(1\).pdf \(unicef.org\)](#)

⁵² [The pandemic’s impact on: Children and young people in poverty - The Children and Young People’s Commissioner Scotland \(cypcs.org.uk\)](#)

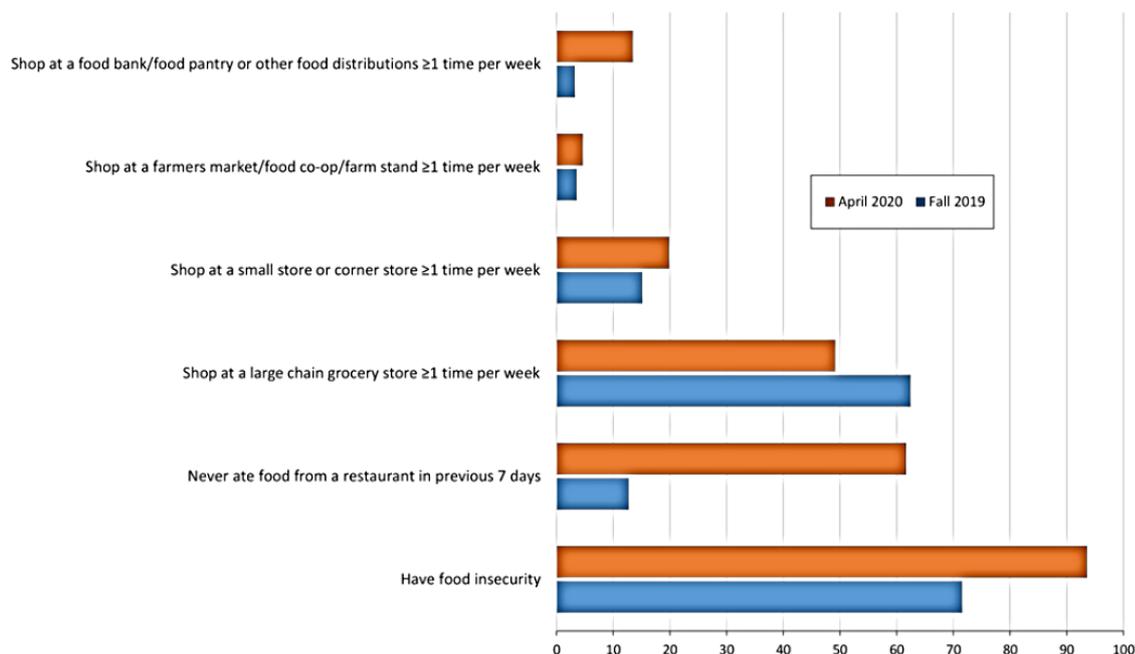
⁵³ [independent-cria.pdf \(cypcs.org.uk\)](#)

Food insecurity

Efforts to mitigate the transmission of COVID-19 have disrupted food systems, disrupted health and nutrition services and threatened food security⁵⁴ and as a result **more vulnerable people are becoming malnourished due to the deteriorating quality of their diets and the multiple shocks created by the pandemic** and its containment measures. Without timely action it has been estimated that the global prevalence of child wasting (severe malnutrition) could rise by 14.3%, this would translate to an estimated additional 6.7 million children with wasting during the first 12 months of the pandemic—80% of them in sub-Saharan Africa and South Asia.⁵⁵

A US study of low income households found 93.5% of respondents reported food insecurity, a 22% increase from autumn 2019 to April 2020. Additional findings included a reduction in fruit and vegetable intake and an increase in the use of food banks and food distribution services (figure 6)⁵⁶

Figure 6: COVID-19-related changes in food insecurity, eating out, and food shopping behaviour among low-income households with children⁵⁷



This direct increase in **food insecurity could pose a serious public health concern**. Household food insecurity has been shown to negatively affect caregiver mental health and that this in turn has a negative impact on early child development outcomes.⁵⁸

In addition to this, **malnourished children have weaker immune systems and increased risk of developing non-communicable diseases**, which in turn are risk factors for poorer prognosis in COVID-19 patients.^{59,60} UNICEF suggests **five urgent actions to protect children's rights to nutrition during the pandemic** (figure 7).⁶¹

⁵⁴ [COVID-19 and children - UNICEF DATA](#)

⁵⁵ [Child malnutrition and COVID-19: the time to act is now \(thelancet.com\)](#)

⁵⁶ [www.cdc.gov/pcd/issues/2020/20_0322.htm Preventing Chronic Disease. Social Determinants of Health-Related Needs During COVID-19 Among Low-Income Households With Children \(nih.gov\)](#)

⁵⁷ [www.cdc.gov/pcd/issues/2020/20_0322.htm Preventing Chronic Disease. Social Determinants of Health-Related Needs During COVID-19 Among Low-Income Households With Children \(nih.gov\)](#)

⁵⁸ [COVID-19 and maternal and child food and nutrition insecurity: a complex syndemic \(wiley.com\)](#)

⁵⁹ [COVID-19 and maternal and child food and nutrition insecurity: a complex syndemic \(wiley.com\)](#)

⁶⁰ [Child nutrition and COVID-19 - UNICEF DATA](#)

⁶¹ [Child malnutrition and COVID-19: the time to act is now \(thelancet.com\)](#)

Figure 7: Five urgent actions to protect children’s rights to nutrition in the COVID-19 pandemic⁶²

- Panel: Five urgent actions to protect children’s right to nutrition in the COVID-19 pandemic**
- Safeguard and promote access to nutritious, safe, and affordable diets
 - Invest in improving maternal and child nutrition through pregnancy, infancy, and early childhood
 - Re-activate and scale up services for the early detection and treatment of child wasting
 - Maintain the provision of nutritious and safe school meals for vulnerable children
 - Expand social protection to safeguard access to nutritious diets and essential services

Physical activity and sedentary behaviour

Many countries introduced non pharmaceutical interventions which in turn led to changes in levels of physical activity and sedentary behaviours. Findings from a systematic literature review identified, **“decreases in physical activity and increases in sedentary behaviours during their respective lockdowns across several populations, including children and patients with a variety of medical conditions”**.⁶³

A study involving children aged 4-18 year from Ireland, Italy, England & US⁶⁴ found that the pandemic significantly restricted children’s access to the outdoors and increased their time indoors. See Table 3.

Table 3: Changes in play activities during the pandemic

Table 2. Changes in play activities during the pandemic. (Table view)

Type of activity	Child’s responses (age 10–18 years)	Parent’s responses (age 4–14 years)
	<i>More than before</i>	<i>More than before</i>
Playing cards or board games	30.2%	49.3%
Doing jigsaws	21.1%	29.7%
Playing with toys (cars, dolls, LEGO, etc.)	38.2%	54.3%
Doing arts and crafts	53.6%	55.3%
Drawing / painting	48.3%	49.8%
Reading for pleasure	41.3%	37.7%
Just hanging about	62.6%	59.3%
Watching TV / Netflix / films	76.1%	72.2%
Watching YouTube videos	67.4%	68.7%
Playing video/ computer games or apps	70.2%	65.9%
Browsing the web	59.5%	50.1%
Listening to music	54.4%	41.8%
Posting content online (TikTok, Instagram) or vlogging	45.5%	41.8%
Using Zoom (or similar)	84.8%	87.8%
Another activity not already mentioned	59.6%	49%

Table 4 highlights research exploring the impact of COVID-19 on physical activity and sedentary behaviour as a result of COVID-19 pandemic in children.

⁶² [Child malnutrition and COVID-19: the time to act is now \(thelancet.com\)](https://www.thelancet.com)

⁶³ [Changes in physical activity and sedentary behaviours from before to during the COVID-19 pandemic lockdown: a systematic review \(bmj.com\)](https://www.bmj.com)

⁶⁴ [Full article: Indoor play during a global pandemic: commonalities and diversities during a unique snapshot in time \(tandfonline.com\)](https://www.tandfonline.com)

Table 4: Country findings in relation to a physical activity in children during the pandemic

Country	Population group and age	Findings
Canada ⁶⁵	Canadian parents (n = 1472) of children (5–11 years) or youth (12–17 years)	During the first wave of the pandemic and its associated restrictions, only 4.8% (2.8% girls, 6.5% boys) of children and 0.6% (0.8% girls, 0.5% boys) of youth were meeting combined movement behaviour guidelines. Children and youth had lower physical activity levels, less outside time, higher sedentary behaviour (including leisure screen time), and more sleep during the outbreak.
Canada (Ontario) ⁶⁶	Parent/child dyads where the child is 12 years or younger	Parent/guardian interviews: Barriers to engaging children in physical activity included: weather, housing type (e.g., apartment, detached house), screen-time, loss of their previously daily routines, financial barriers, closures of supportive environments, and lack of motivation Facilitators to getting children active during the pandemic included: bubbling (i.e., clustering with people outside of immediate household) with other families, spending time outdoors. Parents spoke more about the influence of their living space and community (i.e., rural, urban) on their ability to facilitate their children's activity, whereas this was not frequently mentioned by children. Regarding common outdoor spaces, parents with free standing homes that had backyards and other outdoor spaces (i.e., communal living areas, courtyards outside apartments) reported these spaces to be instrumental in their ability to promote their children's movement Children interviews: Children reported missing important people (i.e., friends, coaches), closure of outdoor play spaces (i.e., parks), sports and sporting events and lack of things to do at home as the most notable barriers
Canada	School-aged children and youth living with disabilities 4 and 17 years of age	Assessment of parent-perceived changes in physical activity (including outdoor play), sedentary behaviour (including screen time), and sleep quality and quantity, due to COVID-19 and related restrictions, in a national cohort of Canadian children and youth living with disabilities showed a decrease in physical activity levels and an increase in sedentary behaviour.
Germany ⁶⁷	Representative sample (n=1711) children aged 4 to 17	Comparison of the physical activity and recreational screen time of a representative sample before and during the first COVID-19 lockdown found that sports activity declined whereas recreational screen and associated sedentary behaviour increased.
Northern Ireland ⁶⁸	Respondents were between 5 and 18 years of age	During lockdown there was a decline in the proportion of respondents who were active through play (53.2% to 31.4%) and in the level of social play children were able to engage in (58.9% to 5%). The survey found that during lockdown on a daily basis there was an increase in more solitary types of play including wheeled play (30.4% to 45.7%), creative play (35.7% to 45%), messy play (30% to 35.4%) and daydreaming (27.9% to 33.9%). For some, this was a positive change as they were able to explore new play activities which would not ordinarily have been part of their play experience.
United States ⁶⁹	Children aged between 5 and 13 years of age	COVID-19 restrictions such as the closure of schools and parks, and the cancellation of youth sports and activity classes around the United States may prevent children from achieving recommended levels of physical activity. Short-term changes in physical activity and sedentary behaviour as a reaction to COVID-19 may become permanently entrenched , leading to increased risk of obesity, diabetes, and cardiovascular disease in children.

⁶⁵ [Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: a national survey \(nih.gov\)](#)

⁶⁶ [Children and parents' perspectives of the impact of the COVID-19 pandemic on Ontario children's physical activity, play, and sport behaviours | BMC Public Health | Full Text \(biomedcentral.com\)](#)

⁶⁷ [Physical activity and screen time of children and adolescents before and during the COVID-19 lockdown in Germany: a natural experiment | Scientific Reports \(nature.com\)](#)

⁶⁸ [Our-Voices-Matter-Summary-Report-PlayBoard-NI-Nov-2020.pdf](#)

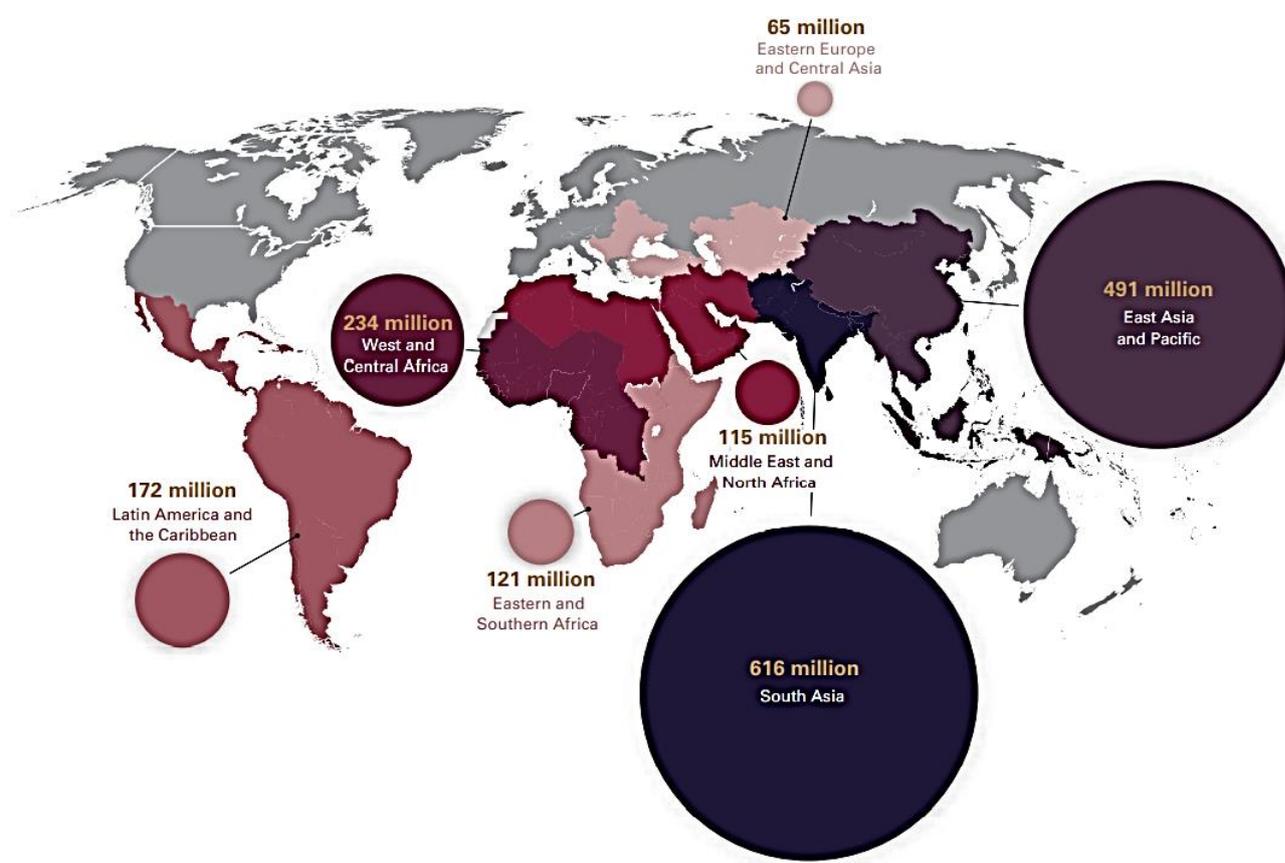
⁶⁹ [Early effects of the COVID-19 pandemic on physical activity and sedentary behavior in children living in the U.S. \(nih.gov\)](#)

Abuse

Lockdown measures implemented during the pandemic may have increased the risk of additional household tensions. Additional stressors placed upon care givers, such as economic uncertainty, job loss and social isolation can all expose children to a range of additional risks.⁷⁰ This includes the **risk of physical, emotional, and domestic abuse and neglect, as well as online harm.**⁷¹ These factors are compounded by an **increased vulnerability for children during the pandemic**, due to having fewer opportunities to leave the house and being less likely to have access to available helplines.⁷²⁷³

There have also been a reduction in safeguards during the pandemic. UNICEF highlighted that **66% of countries have reported disruption to violence prevention and response services due to the COVID-19 pandemic** (figure 8)

Figure 8: Number of children aged 0 to 17 years living in countries that have reported any level of disruption in any services related to violence against children⁷⁴



⁷⁰ [COVID-19 and children - UNICEF DATA](#)

⁷¹ [Isolated and struggling: social isolation and the risk of child maltreatment, in lockdown and beyond \(nspcc.org.uk\)](#)

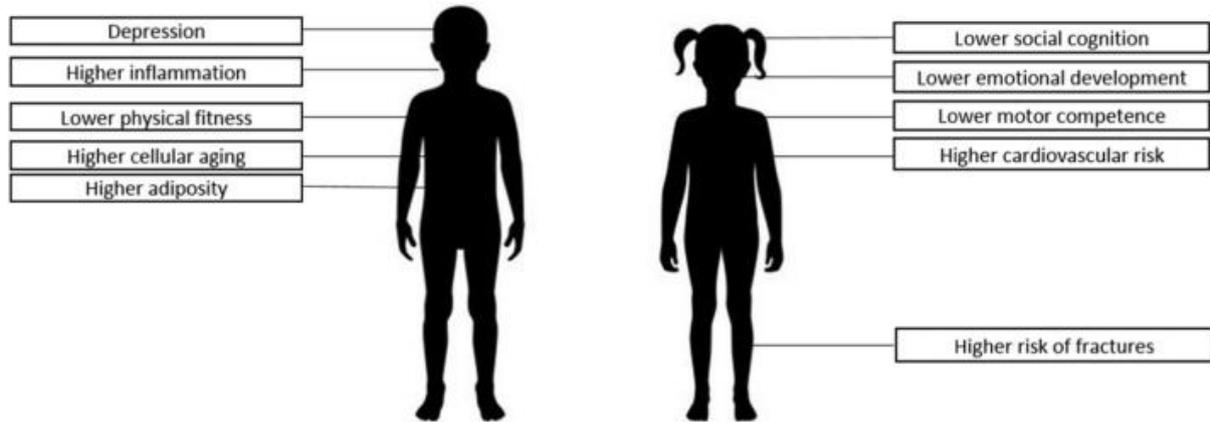
⁷² [Addressing violence against children, women and older people during the covid-19 pandemic: Key actions \(who.int\)](#)

⁷³ [Isolated and struggling: social isolation and the risk of child maltreatment, in lockdown and beyond \(nspcc.org.uk\)](#)

⁷⁴ [Protecting Children from Violence in the Time of COVID-19 - UNICEF DATA](#)

This report has outlined the various potential impacts of the pandemic on children and demonstrated that they are often interrelated, some of these potential health related consequences are outlined in figure 9.

Figure 9: Potential health-related consequences of COVID-19 lockdown in children⁷⁵



⁷⁵ [Potential health-related behaviors for pre-school and school-aged children during COVID-19 lockdown: A narrative review](#)

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