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Supporting Children with School Problems in the COVID-19 Pandemic: Revisiting The Pediatrician's Toolkit

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**Supporting Children with School Problems in the COVID-19 Pandemic:
Revisiting The Pediatrician's Toolkit**

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Abbreviations: ADHD (Attention-Deficit/Hyperactivity Disorder), ASD (Autism Spectrum Disorder), COVID-19 (Novel Coronavirus 2019 Disease), WHO (World Health Organization)

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Dr. Minhas and Dr. Freeman conceptualized, drafted, reviewed and revised the manuscript for submission. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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7 unprecedented public health recommendations to minimize viral spread. This included a major
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10 disruption in the cornerstone of children's lives and well-being - school closures.

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12 School boards across North America have since sought to implement a range of novel measures
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15 to minimize viral transmission while maintaining access to education. Today, students have the
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18 option of learning via virtual learning platforms, in-person, or through hybridized virtual and in-
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21 person models. For the first time in decades, the conventional model of education delivery has
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24 undergone rapid transformation. Consequently, healthcare providers must now reinvent their
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27 approach to school-based problems for the 10 to 15% of children who will present with these
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30 issues at some point in their school years.²

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32 Children with learning, behavioral and social-emotional problems require careful assessment of
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35 their learning environment and educational challenges, often informed by teachers and school
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38 paraprofessionals. However, distance learning presents challenges for educators to characterize
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41 educational, behavioral and developmental needs. Additionally, school support staff such as
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15 guide clinicians in the treatment of ADHD. Likewise, the behavioral impacts of social skills
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17 programs and self-regulation curricula may be difficult to assess without direct peer interactions.
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19 Additionally, clinicians' recommendations for accommodations and modifications to the
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21 curriculum and learning environment are more difficult to implement through virtual means.
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26 Children with socioeconomic disadvantage face additional barriers to distance learning which
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28 impact school attendance and performance and must be considered when assessing school
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30 challenges. Nearly 15% of children in the U.S lack reliable access to broadband internet; many
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32 do not have a dedicated device to connect to school.³ Similarly, the learning losses associated
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34 with school closures have a greater impact for low-income students who have reduced access to
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36 supplementary educational materials and tutoring which must be taken into account when
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38 assessing learning needs.⁴
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43 Measures taken to limit viral transmission in the classroom, including mask-wearing and
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3 Further, students isolating from peers because of social challenges may be misunderstood as
4 trying to conform to new social norms such as physical distancing. This misperception could
5 result in teachers not recognizing a student's social struggles, and underreporting these
6 challenges on standardized diagnostic questionnaires. For neurodevelopmental disorders that
7 require time-sensitive therapeutic interventions, delayed or missed diagnoses could be
8 detrimental. This phenomenon could also impact the reported prevalence and epidemiological
9 patterns of these disorders.

10
11 It has also become more difficult to monitor children with known developmental disorders that
12 impact socialization, such as ASD, social anxiety or selective mutism in the classroom setting.
13 Worsening social difficulties may be attributed to a "regression" in skills, rather than the struggle
14 to navigate a dynamic, unfamiliar social landscape. Like many DSM5⁵ diagnoses, specialists
15 must consider whether reported social challenges are causing functional impairments by
16 comparing to accepted social norms, which are themselves shifting and nebulous for the
17 neurotypical population.

18
19 The barriers associated with virtual learning and today's in-person classroom environment
20 present challenges in obtaining and integrating educational history and observations into a plan.
21 During the pandemic, pediatricians may not have enough input from educators and must rely
22 more heavily on caregivers to provide behavioral and educational observations of children
23 learning at home. Clinicians also need to consider the impact of learning losses attributed to
24 school closures and distance learning on a child's presentation, especially for those with barriers
25 to accessing school online. When using standardized diagnostic tools to assess behavior and
26 development, practitioners must also consider the dynamics of the learning environment. Further,
27 there is a need for increased vigilance for learning, behavior and developmental problems that

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3 may be subclinical or insidious in this current educational climate. Pediatricians would benefit
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5 from more frequent follow up and assessment with students who have a history of learning and
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7 behavior challenges especially after they have settled into their learning program.
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11 The COVID-19 pandemic has resulted in drastic changes to the environments in which children
12
13 learn and play. Pediatricians play a key role in supporting children's school performance as
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15 diagnosticians, counsellors, advocates, and liaisons with their educational teams. In response to
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17 these widespread changes, traditional approaches to the assessment and management of school
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19 problems must adapt to meet the evolving needs of children impacted by the pandemic.
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References

1. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. World Health Organization. Published online March 11, 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> (Accessed October 18, 2020).
2. Andrews D, Mahoney W, eds. Children with School Problems: A Physician's Manual, 2nd Edition. Mississauga, ON: John Wiley & Sons, Canada; 2012.
3. Fishbane, L, Tomer A. As classes move online during COVID-19, what are disconnected students to do? Brookings Scholar. April 2020:1-5 (<https://www.brookings.edu/blog/the-avenue/2020/03/20/as-classes-move-online-during-covid-19-what-are-disconnected-students-to-do/>)
4. Hanushek EA, Woessmann L. The Economic Impacts of Learning Losses. OECD. September 2020. <http://www.oecd.org/education/The-economic-impacts-of-coronavirus-covid-19-learning-losses.pdf>. (Accessed October 20, 2020).
5. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 5th ed. Washington DC: American Psychiatric Association, 2013.

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18 via virtual learning platforms, in-person, or through hybridized virtual and in-person models. For
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21 the first time in decades, the conventional model of education delivery has undergone rapid
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24 change while simultaneously, the COVID-19 pandemic has unveiled and exacerbated existing
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27 inequities for children with school problems. Consequently, healthcare providers must not only
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30 adapt their response to school-based problems during the pandemic, but must also use lessons
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33 learned to re-invent an approach to address inequities in caring for the 10 to 15% of children who
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36 will present with these issues at some point in their school years.²

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38 Children with learning, behavioral and social-emotional problems require careful assessment of
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41 their educational environment, and socioeconomic circumstances. The learning ecosystem is
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44 informed by teachers and school paraprofessionals, while social risks are determined by careful
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47 history taking and screening. Distance learning however, presents challenges for educators to
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50 characterize educational, behavioral and developmental needs. Additionally, school support staff
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59 Moreover, nearly 15% of children in the U.S lack reliable access to broadband internet; many do
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not have a dedicated device to connect to school.³ While, children with socioeconomic
disadvantage are at greater risk of learning and behavioural challenges, and developmental

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3 disabilities, they face more barriers to distance learning and support. This conundrum will
4 impact school attendance and performance and must be considered when assessing school
5 challenges.⁴
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11 The physical classroom may reveal features that suggest disorders such as learning disabilities,
12 attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) which can
13 be overlooked in a virtual setting. For students attending virtual classes, the experience may be
14 socially isolating, rather than a communal journey including: preparing for group projects,
15 participating in team sports and recreation, and interacting during unstructured lunch and recess
16 times . The virtual school experience itself may negatively impact learning and behavior which
17 may not be recognized or readily monitored by educators or clinicians. Furthermore, for some
18 children, learning at home may be stressful due to increased concerns for domestic violence,
19 child maltreatment and parental mental health disorders exacerbated by the pandemic. Similarly,
20 the learning losses associated with school closures have a greater impact for low-income students
21 who have reduced access to supplementary educational materials and tutoring and are less likely
22 to have parental supervision or support of learning at home. These factors must be taken into
23 account when assessing learning needs.⁵
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42 Virtual schooling also presents challenges in assessing the impact of both pharmacologic and
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10 Further, students isolating from peers because of social challenges may be misunderstood as
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51 The barriers associated with virtual learning and today's in-person classroom environment
52 present challenges in obtaining and integrating educational history and observations into a plan.
53 Increasing economic instability and parental unemployment may also contribute to academic and
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3 behavioural challenges whether studying online or in-person. During the pandemic,
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5 pediatricians may not have enough input from educators and must rely more heavily on
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7 caregivers to provide behavioral and educational observations of children learning at home. This
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9 may not be feasible for caregivers who are essential workers or are overburdened with economic
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11 strain or family responsibilities. Clinicians also need to consider the impact of learning losses
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13 attributed to school closures and distance learning on a child's presentation, especially for
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15 marginalized students with barriers to accessing school online and encountering socioeconomic
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17 instability. When using standardized diagnostic tools to assess behavior and development,
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25 those with social risk factors. Pediatricians would benefit from more frequent follow up and
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36 The COVID-19 pandemic has resulted in drastic changes to the environments in which children
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38 learn and play and has revealed vast disparities in access to virtual education, developmental
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40 resources and support. Pediatricians should use this opportunity to redefine a model of care to
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42 support at-risk children with school problems as diagnosticians, counsellors, advocates, and
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44 liaisons with their educational teams. In response to these widespread changes, traditional
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46 approaches to the assessment and management of school problems must adapt to meet the
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48 evolving needs of marginalized children impacted by the pandemic and beyond.
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References

1. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. World Health Organization. Published online March 11, 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> (Accessed October 18, 2020).
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3. Fishbane, L, Tomer A. As classes move online during COVID-19, what are disconnected students to do? Brookings Scholar. April 2020:1-5 (<https://www.brookings.edu/blog/the-avenue/2020/03/20/as-classes-move-online-during-covid-19-what-are-disconnected-students-to-do/>)
4. Minhas RS. How COVID-19 is widening disparity in children's developmental potential. The Toronto Star. 2020. <https://www.thestar.com/opinion/contributors/2020/10/27/how-covid-19-is-widening-disparity-in-childrens-developmental-potential.html> (Accessed December 15, 2020).
5. Hanushek EA, Woessmann L. The Economic Impacts of Learning Losses. OECD. September 2020. <http://www.oecd.org/education/The-economic-impacts-of-coronavirus-covid-19-learning-losses.pdf>. (Accessed October 20, 2020).

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4 In March 2020, the WHO's declaration of the COVID-19 global pandemic¹, resulted in
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6
7 unprecedented public health recommendations to minimize viral spread. This included a major
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10 disruption in the cornerstone of children's lives and well-being - school closures.

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12 School boards have since sought to implement a range of novel measures to minimize viral
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15 transmission while maintaining access to education. Today, students have the option of learning
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18 via virtual learning platforms, in-person, or through hybridized virtual and in-person models. For
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21 the first time in decades, the conventional model of education delivery has undergone rapid
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24 change while simultaneously, the COVID-19 pandemic has unveiled and exacerbated existing
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27 inequities for children with school problems. Consequently, healthcare providers must adapt
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30 their response to school-based problems during the pandemic. They must also use lessons
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33 learned to re-invent an approach to address inequities in caring for the 10 to 15% of children who
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36 will present with these issues at some point in their school years.²

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38 Children with learning, behavioral and social-emotional problems require careful assessment of
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41 their educational environment, and socioeconomic circumstances. The learning ecosystem is
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44 informed by teachers and school paraprofessionals, while social risks are determined by careful
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47 history taking and screening. Distance learning however, presents challenges for educators to
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50 characterize educational, behavioral and developmental needs. Additionally, school support staff
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53 such as educational assistants, speech and language pathologists, occupational therapists, and
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56 psychologists may not be able to provide a comprehensive assessment using virtual platforms.
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59 Moreover, nearly 15% of children in the U.S lack reliable access to broadband internet; many do
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not have a dedicated device to connect to school.³ While, children with socioeconomic
disadvantage are at greater risk of learning and behavioural challenges, and developmental

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3 disabilities, they face more barriers to distance learning and support. This conundrum will
4 impact school attendance and performance and must be considered when assessing school
5 challenges.⁴
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10 The physical classroom may reveal features that suggest disorders such as learning disabilities,
11 attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) which can
12 be overlooked in a virtual setting. For students attending virtual classes, the experience may be
13 socially isolating, rather than a communal journey including: preparing for group projects,
14 participating in team sports and recreation, and interacting during unstructured lunch and recess
15 times . The virtual school experience itself may negatively impact learning and behavior which
16 may not be recognized or readily monitored by educators or clinicians. Furthermore, for some
17 children, learning at home may be stressful due to increased concerns for domestic violence,
18 child maltreatment and parental mental health disorders exacerbated by the pandemic. Similarly,
19 the learning losses associated with school closures have a greater impact for low-income students
20 who have reduced access to supplementary educational materials and tutoring and are less likely
21 to have parental supervision or support of learning at home. These factors must be taken into
22 account when assessing learning needs.⁵
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42 Virtual schooling also presents challenges in assessing the impact of both pharmacologic and
43 nonpharmacologic behavior interventions. Without direct observations and interactions, teachers
44 have fewer occasions to observe changes in behaviors such as attention and focus, that help
45 guide clinicians in the treatment of ADHD. Likewise, the behavioral impacts of social skills
46 programs and self-regulation curricula may be difficult to assess without direct peer interactions.
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53 Additionally, clinicians' recommendations for accommodations and modifications to the
54 curriculum and learning environment are more difficult to implement through virtual means.
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3 Measures taken to limit viral transmission in the classroom, including mask-wearing and
4 physical distancing, impact learning, behavior and social development. Since masks interfere
5 with speech recognition, students with hearing and language impairment or new language
6 learners may have difficulties understanding speech and instruction. Masks can obscure facial
7 affect and non-verbal communication, further complicating children's perceptions of social
8 interactions. Physical distancing may cause anxiety for young children learning to socialize.
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10 Further, students isolating from peers because of social challenges may be misunderstood as
11 trying to conform to new social norms such as physical distancing. This misperception could
12 result in teachers not recognizing a student's social struggles, and underreporting these
13 challenges on standardized diagnostic questionnaires. For neurodevelopmental disorders that
14 require time-sensitive therapeutic interventions, delayed or missed diagnoses could be
15 detrimental. This phenomenon could also impact the reported prevalence and epidemiological
16 patterns of these disorders.
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34 It has also become more difficult to monitor children with known developmental disorders that
35 impact socialization, such as ASD, social anxiety or selective mutism in the classroom setting.
36 Worsening social difficulties may be attributed to a "regression" in skills, rather than the struggle
37 to navigate a dynamic, unfamiliar social landscape. Like many DSM5 diagnoses, specialists must
38 consider whether reported social challenges are causing functional impairments by comparing to
39 accepted social norms, which are themselves shifting and nebulous for the neurotypical
40 population.
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51 The barriers associated with virtual learning and today's in-person classroom environment
52 present challenges in obtaining and integrating educational history and observations into a plan.
53 Increasing economic instability and parental unemployment may also contribute to academic and
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3 behavioural challenges whether studying online or in-person. During the pandemic,
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5 pediatricians may not have enough input from educators and must rely more heavily on
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7 caregivers to provide behavioral and educational observations of children learning at home. This
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9 may not be feasible for caregivers who are essential workers or are overburdened with economic
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11 strain or family responsibilities. Clinicians also need to consider the impact of learning losses
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13 attributed to school closures and distance learning on a child's presentation, especially for
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15 marginalized students with barriers to accessing school online and encountering socioeconomic
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17 instability. When using standardized diagnostic tools to assess behavior and development,
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19 practitioners must also consider the dynamics of the learning environment and psychosocial
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21 context. Further, there is a need for increased vigilance for learning, behavior and developmental
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23 problems that may be subclinical or insidious in this current educational climate, particularly for
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25 those with social risk factors. Pediatricians would benefit from more frequent follow up and
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27 assessment with students who have a history of learning and behavior challenges especially for
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29 students experiencing social inequities, after they have settled into their learning program.
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36 The COVID-19 pandemic has resulted in drastic changes to the environments in which children
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38 learn and play and has revealed vast disparities in access to virtual education, developmental
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40 resources and support. Pediatricians should use this opportunity to redefine a model of care to
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42 support at-risk children with school problems as diagnosticians, counsellors, advocates, and
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44 liaisons with their educational teams. In response to these widespread changes, traditional
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46 approaches to the assessment and management of school problems must adapt to meet the
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48 evolving needs of marginalized children impacted by the pandemic and beyond.
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References

1. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. World Health Organization. Published online March 11, 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> (Accessed October 18, 2020).
2. Andrews D, Mahoney W, eds. Children with School Problems: A Physician's Manual, 2nd Edition. Mississauga, ON: John Wiley & Sons, Canada; 2012.
3. Fishbane, L, Tomer A. As classes move online during COVID-19, what are disconnected students to do? Brookings Scholar. April 2020:1-5 (<https://www.brookings.edu/blog/the-avenue/2020/03/20/as-classes-move-online-during-covid-19-what-are-disconnected-students-to-do/>)
4. Minhas RS. How COVID-19 is widening disparity in children's developmental potential. The Toronto Star. 2020. <https://www.thestar.com/opinion/contributors/2020/10/27/how-covid-19-is-widening-disparity-in-childrens-developmental-potential.html> (Accessed December 15, 2020).
5. Hanushek EA, Woessmann L. The Economic Impacts of Learning Losses. OECD. September 2020. <http://www.oecd.org/education/The-economic-impacts-of-coronavirus-covid-19-learning-losses.pdf>. (Accessed October 20, 2020).