

toms of psychological distress before they become severe. Collaborative care models can be used to address children's health care needs in low-resource settings. Interventions may include the transfer of essential skills for mental health assessment and treatments to nonpsychiatric personnel by developing partnerships between psychiatrists and primary care clinicians and other health care workers. Task shifting can be effective for increasing access to care provided by individuals available to provide needed services despite differences in level of training. For countries with any telehealth capacity, services via text, telephone, or video can expand access to a spectrum of services for individuals and expert consultation for partners in low-resource communities. Telehealth has dem-

onstrated effectiveness for lowering the barriers to seeking treatment for those with suicidality, depression, and anxiety.¹⁶

Strengthening these accessible mental health resources in communities for children and families would decrease use of high-acuity emergency psychiatric services, which are limited in most countries.¹³

The COVID-19 pandemic is a global call to action. We are experiencing a global public health crisis in youth mental health that began long before the pandemic, and we must advocate for implementation of evidence-supported practices that are scalable, expands access to care, and eliminates disparities worldwide. We must lead the charge for equitable mental health care for all children across the world.

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REFERENCES

- Racine N, McArthur BA, Cooke JE, Eirich R, Zhu J, Madigan S. Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: a meta-analysis. *JAMA Pediatr*. Published online August 9, 2021. doi:10.1001/jamapediatrics.2021.2482
- Burdzovic Andreas J, Brunborg GS. Depressive symptomatology among Norwegian adolescent boys and girls: the Patient Health Questionnaire-9 (PHQ-9) psychometric properties and correlates. *Front Psychol*. 2017;8:887. doi:10.3389/fpsyg.2017.00887
- Tiirikainen K, Haravuori H, Ranta K, Kaltiala-Heino R, Marttunen M. Psychometric properties of the 7-item Generalized Anxiety Disorder Scale (GAD-7) in a large representative sample of Finnish adolescents. *Psychiatry Res*. 2019;272:30-35. doi:10.1016/j.psychres.2018.12.004
- The World Bank. Population ages 0-14, total: lower middle income. Accessed July 12, 2021. <https://data.worldbank.org/indicator/SP.POP.0014.TO?view=chart&locations=XN>
- Polaczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA. Annual research review: a meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *J Child Psychol Psychiatry*. 2015;56(3):345-365. doi:10.1111/jcpp.12381
- Hawke LD, Hayes E, Darnay K, Henderson J. Mental health among transgender and gender diverse youth: an exploration of effects during the COVID-19 pandemic. *Psychol Sex Orientat Gend Divers*. Published 2021. doi:10.1037/sgd0000467
- Lee J. Mental health effects of school closures during COVID-19. *Lancet Child Adolesc Health*. 2020;4(6):421. doi:10.1016/S2352-4642(20)30109-7
- Krass P, Dalton E, Doupnik SK, Esposito J. US pediatric emergency department visits for mental health conditions during the COVID-19 pandemic. *JAMA Netw Open*. 2021;4(4):e218533-e218533. doi:10.1001/jamanetworkopen.2021.8533
- Marques de Miranda D, da Silva Athanasio B, Sena Oliveira AC, Simoes-E-Silva AC. How is COVID-19 pandemic impacting mental health of children and adolescents? *Int J Disaster Risk Reduct*. 2020;51:101845. doi:10.1016/j.ijdrr.2020.101845
- Gómez-Ramiro M, Fico G, Annella G, et al. Changing trends in psychiatric emergency service admissions during the COVID-19 outbreak: report from a worldwide epicentre. *J Affect Disord*. 2021;282:26-32. doi:10.1016/j.jad.2020.12.057
- Craig S, Ames ME, Bondi BC, Pepler DJ. Canadian adolescents' mental health and substance use during the COVID-19 pandemic: associations with COVID-19 stressors. *PsyArXiv*. Posted September 9, 2020. doi:10.31234/osf.io/kprd9
- Fante-Coleman T, Jackson-Best F. Barriers and facilitators to accessing mental healthcare in Canada for black youth: a scoping review. *Adolesc Res Rev*. 2020;5(2):115-136. doi:10.1007/s40894-020-00133-2
- Remschmidt H, Belfer M. Mental health care for children and adolescents worldwide: a review. *World Psychiatry*. 2005;4(3):147-153.
- Kapur N, Ibrahim S, While D, et al. Mental health service changes, organisational factors, and patient suicide in England in 1997-2012: a before-and-after study. *Lancet Psychiatry*. 2016;3(6):526-534. doi:10.1016/S2215-0366(16)00063-8
- Webb Hooper M, Nápoles AM, Pérez-Stable EJ. No populations left behind: vaccine hesitancy and equitable diffusion of effective COVID-19 vaccines. *J Gen Intern Med*. 2021. doi:10.1007/s11606-021-06698-5
- Fairchild RM, Ferng-Kuo S-F, Rahmouni H, Hardesty D. Telehealth increases access to care for children dealing with suicidality, depression, and anxiety in rural emergency departments. *Telemed J E Health*. 2020;26(11):1353-1362. doi:10.1089/tmj.2019.0253

Yes, Children Can Transmit COVID, but We Need Not Fear

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The iconic article "Cuddlers, Touchers, and Sitters" (formerly entitled "Modes of Transmission of Respiratory Syncytial Virus") by Hall and Douglas¹ stands to this day as one of the simplest recitations of the behavior of respiratory viruses and children. With an elegant and simple study design, Hall and Douglas vividly demonstrated that it's the interactions between susceptible and infected persons that drive much of viral transmission. For those who do not recall this study,

Hall and Douglas examined the likelihood of transmission from an infant infected with respiratory syncytial virus (RSV) to an adult caretaker who either sat with the infant on their lap, touched the infant while they laid in their crib, or sat next to the crib. We can now predict the outcomes—cuddlers were the most likely to get infected. While the classic diagram of the "chains of transmission" helps us break down some the factors that determine onward transmission, many respiratory viruses rely on time, proximity, and contact to spread.



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With this lens, we read the Paul et al impressive study² of the transmission of SARS-CoV-2 virus in households. Using public health data from the province of Ontario, Canada, investigators identified clusters in which the apparent primary case was a child. Some of the findings are not surprising. The age distribution of most secondary cases indicated that they were likely either siblings (0-20 years of age) or parents (30-50 years of age). Additionally, older children and teens were more likely than toddlers and young children to be the primary household case, consistent with a higher degree of social mobility. Applying thoughtful stratified and sensitivity analyses, these investigators also developed a more nuanced understanding of how, and potentially why, SARS-CoV-2 spreads more in some households than others.

First, we learned that while young children (those younger than 4 years) were less likely to be a child primary case, they were more likely to be a source case for other members of their households. This finding is at odds with early reports suggesting that young children rarely transmit to others.³ To understand this apparent contradictory observation, we must remember what happened to infants and toddlers during the early days of the pandemic: they were sequestered, staying at home alongside parents who were working and siblings who were learning remotely. For these households, there were few opportunities for virus to enter the family circle. Limited testing capacity, with a focus on testing elderly individuals, health care workers, and those ill enough to require hospitalization, also contributed to the impression that this new virus spared young children. Under these circumstances, we were understandably surprised when we diagnosed a young child with COVID.

Times changed and the Paul et al study was conducted as Ontario was getting back to business and Ontario's children were getting back to school and daycare. Under these more realistic conditions, we see that not only can infants and toddlers get infected but they can also spread SARS-CoV-2. In fact, the assumption that infected children were at risk of spreading SARS-CoV-2 was at the core of safety plans in schools and daycares that emphasized the importance of masking and distancing of students throughout the school day.⁴ But these practices were inconsistent with the available observations that children were both less likely to have severe disease (true) and possibly less likely to spread it to others (not true). These safety plans were focused on reducing transmission between infected school staff and students, as well as protecting everyone's family members. The Paul et al study now reveals that

these measures have served an important purpose as the nation awaited the safety afforded by vaccines.

Still, there are some surprises in these data. The investigators' finding that the youngest children are the most likely to spread the virus in household demands some consideration. To date, we do not have any evidence that the viral titer shed by young children is greater than that shed by teens and adults; in fact, most studies suggest that, in childhood, viral shedding may increase with increasing age.⁵ Additionally, prior work that has described that young children are more likely to have asymptomatic infections than older individuals⁶ and that asymptotically infected individuals are less likely to transmit than individuals who have symptomatic infection.⁷ While ascertainment bias might be at play in this study (ie, symptomatic individuals more likely to be tested), this finding persisted when the analysis was limited to households where the primary case was symptomatic.

To understand why the youngest children may be more likely to transmit COVID to others once infected, we believe we need to consider the simple but elegant findings of Hall and Douglas—behavior matters! Infants and young children demand attention when sick. The youngest toddlers are unreliable maskers and do not always understand the messaging of a 6-ft distancing rule—nor should they. Cuddling and touching are part and parcel of taking care of a sick young child and that will obviously come with an increased risk of transmission to parents as well as to older siblings who may be helping to care for their sick brother or sister. Whether it is through large respiratory droplets being expelled when a young child does not “cover their cough” or the direct inoculation of mucus membranes that can happen when copious, infectious secretions end up on the hands of family members who overlook the need to clean their hands, these transmission pathways may provide frequent and easy opportunities for viral transmission.

The real challenge of these data may be what to advise families with young children with COVID. It's hard to imagine a household wearing masks and continually cleaning their hands when there is a sick young child at home. Parents will always hold their young, sick children to provide comfort. Siblings will continue to use antics and toys to distract a crying younger brother or sister. The obvious solution to protect a household with a sick young infant or toddler is to make sure that all eligible members of the household are vaccinated. Cloaked with the protection of vaccine, household members need not fear the youngest family members with a runny nose come fall; the solution—vaccination—is now within their grasp.

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REFERENCES

- Hall CB, Douglas RG Jr. Modes of transmission of respiratory syncytial virus. *J Pediatr*. 1981;99(1):100-103. doi:10.1016/S0022-3476(81)80969-9
- Paul LA, Daneman N, Schwartz KL, et al. Association of age and pediatric household transmission of SARS-CoV-2 infection. *JAMA Pediatr*. Published online August 16, 2021. doi:10.1001/jamapediatrics.2021.2770
- Li X, Xu W, Dozier M, He Y, Kirolos A, Theodoratou E; UNCOVER. The role of children in

transmission of SARS-CoV-2: a rapid review. *J Glob Health*. 2020;10(1):011101. doi:10.7189/jogh.10.011101

4. Honein MA, Christie A, Rose DA, et al: CDC COVID-19 Response Team. Summary of guidance for public health strategies to address high levels of community transmission of SARS-CoV-2 and related deaths, December 2020. *MMWR Morb Mortal Wkly*

Rep. 2020;69(49):1860-1867. doi:10.15585/mmwr.mm6949e2

5. Jones TC, Biele G, Mühlemann B, et al. Estimating infectiousness throughout SARS-CoV-2 infection course. *Science*. 2021:eabi5273. doi:10.1126/science.abi5273

6. Mehta NS, Mytton OT, Mullins EWS, et al. SARS-CoV-2 (COVID-19): what do we know about

children? a systematic review. *Clin Infect Dis*. 2020; 71(9):2469-2479. doi:10.1093/cid/ciaa556

7. Cevik M, Kuppalli K, Kindrachuk J, Peiris M. Virology, transmission, and pathogenesis of SARS-CoV-2. *BMJ*. 2020;371:m3862. doi:10.1136/bmj.m3862

Access to Care for Transgender and Nonbinary Youth Ponder This, Innumerable Barriers Exist

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Access to equitable health care, including gender-affirming medical care (eg, pubertal blockers, sex hormones), continues to be a struggle for transgender and nonbinary youth, especially those who are in racial and ethnic minority groups.^{1,2}



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Barriers to accessing comprehensive health care may contribute to the many health

disparities transgender and nonbinary youth face, such as higher rates of substance misuse, burden of sexually transmitted infections, bullying, being bullied, anxiety, depression, suicidal ideation, and suicidal behaviors compared with their aged-matched cisgender peers.³ Looking at 1 disparity, mental health, there is clear evidence that access to pubertal suppression and gender-affirming hormones can be lifesaving.^{4,5} Yet, barriers to this care continue to exist, and many transgender and nonbinary people avoid accessing health care because of experiences of discrimination and/or fear of breaches in confidentiality.²

There is good news; with the exponential increase in multidisciplinary gender clinics around the world, and in particular the US, access to gender-affirming medical care has improved.⁶ However, has this been enough to provide equitable access for transgender and nonbinary youth, especially transgender and nonbinary youth of color? The answer is a resounding no. This is highlighted by the fact that we continue to see health disparities within this population, despite having more centers providing gender-related care.³ What changes to clinical practice must be done to ensure access to gender-affirming medical care for all youth?

In this issue of *JAMA Pediatrics*, Chong et al⁷ systematically reviewed the experience and perspectives of transgender youth accessing health care globally. The authors give strategies to improve clinical practice on 6 themes: (1) provide gender-affirming care, (2) promote inclusive administrative practices, (3) address concerns about confidentiality and public harassment, (4) address psychological stressors and risk-taking behavior, (5) improve accessibility to transgender health services and information, and (6) educate and empower clinicians to address systematic barriers to care. These must all be done. We posit more is required to ensure equitable access to gender-affirming medical care for all transgender and nonbinary youth. Below are 7 additional strategies we believe are necessary to improve access to care.

Research has only begun to elucidate the various barriers that shape transgender and nonbinary youth's experiences accessing health care. Most current research involving transgender and nonbinary youth centers predominantly on White and binary transmasculine youth,⁸ who often benefit from more societal access to resources than their peers.^{1,8,9} We know that there are as many transgender and nonbinary youth of color as those who are White¹ and that many who identify beyond a static binary of male or female.⁹ Youth of color are less likely to access health care, and many nonbinary youth fear their health care professionals may be unwilling to provide gender-affirming medical care because their gender identity lies outside the binary.^{1,9} In addition, the fact that few clinical guidelines are inclusive of nonbinary youth often leaves clinicians with limited resources to support them. Inclusion of racially and ethnically diverse transgender and nonbinary identities in research and in care guidelines is critical in helping clinicians more effectively partner with patients.

Having care guidelines are invaluable, especially in pediatrics, where there are often limited evidence-based studies informing clinical care. However, as with many clinical guidelines, the current gender care guidelines fall short. They all share a requisite mental health assessment of minors prior to providing gender-affirming medical care, a practice that has long been thought to pathologize transgender and nonbinary youth and adults.¹⁰ Additionally, despite changing the name of the assessment (eg, *psychological to readiness assessments*), they continue to evoke concerns of gatekeeping among transgender and nonbinary people¹¹ and in particular transgender and nonbinary people of color, who have historically been less likely to receive approval for gender-affirming medical care by mental health professionals compared with White children.¹² Given that endocrinologists do not require a mental health assessment prior to using the same medications for other conditions (such as precocious puberty) why should we for transgender and nonbinary youth? Yet, we must not brush mental health comorbidities under the rug in the spirit of stigmatizing the involvement of mental health professionals, but we must also understand the historical role these health assessments have played in pathologizing transgender and nonbinary individuals as they have accessed care.

Furthermore, despite these mental health assessments, numerous mental health comorbidities continue to disproportionately