



**Testimony of New York City Public Schools  
On COVID Impact on English Language Learners (ELLs)  
Before the New York City Council Committee on Education**

February 28, 2022

*Testimony of Deputy Chancellor Carlyne Quintana*

Good afternoon, Chair Joseph and all the members of the Education Committee here today. I am Carlyne Quintana, the Deputy Chancellor of Teaching and Learning Opportunities for NYC Public Schools. I am joined today by Mirza Sánchez-Medina, my Deputy Chief Academic Officer for Multilingual Learners. Also joining me today are Kleber Palma, Executive Director of the Translation and Interpretation Unit and additional staff. Thank you for the opportunity to discuss the New York City Public Schools' efforts to address the impact of COVID on English Language Learners (ELLs). I know this is a topic of significant importance to the chair, as a former longtime educator in our public schools, and the City Council.

Since this is my first time appearing before the committee, I want to share a little about my background. I began my education career as a first grade dual-language teacher at a private school in Argentina. My public-school career started about 20 years later, in the Bronx, first as a ninth grade ELA teacher and then as a literacy coach. I was the District Coordinator of Literacy, grades K-12 for the City of White Plains before becoming the principal of Bronxdale High School in the Bronx (still my favorite job). I had an opportunity to support the development of new principals citywide as a principal coach, before leading the Affinity Schools Citywide Office. I am excited to take on the role of Deputy Chancellor of Teaching and Learning Opportunities under the leadership of Chancellor David Banks, as I believe wholeheartedly in his vision that **each and every one of our students will graduate on the pathway to a rewarding career and long-term economic security, equipped to be a positive force for change in our communities and our city.**

You have heard Chancellor Banks state that every young person is filled with brilliance, promise, and gifts. He believes that all children deserve a strong academic foundation that prepares them to graduate with an employable skill set. Equally important, they deserve the tools and support needed to be physically and emotionally healthy. We will work on behalf of all our children – including multilingual and immigrant children from every neighborhood, and especially those who have been historically left behind. We will transform the NYC public school experience by giving every student the support, learning opportunities, and resources to graduate from high school, attend college or learn a trade, get a great job, and become informed and engaged citizens.

To advance those goals, Chancellor Banks has outlined four essential pillars to improving our school system: 1) Reimagining the student experience so that they are excited about learning

through group work, solving problems and wrestling with issues that connect to their communities; 2) Scaling, sustaining, and restoring what works by identifying amazing practices throughout our system and sharing them so that they become models that other schools emulate; 3) Prioritizing wellness and its link to student success, including safe schools, access to green spaces, high-quality nutrition and comprehensive whole-child support for a broad range of each student's needs; and 4) empowering families to be our true partners.

As I think about the role we all play guiding our young people to success, and as we begin this hearing grounded in the impact of COVID on English Language Learners, I am reminded of the heroic efforts and resiliency all of you, including our staff, families, and students, demonstrated, during this global pandemic. Thank you.

We are fortunate to live in a city built by immigrants, and to have a school system that reflects the rich diversity of our communities. Over 140,000 — about 16 percent — of our nearly one million students receive services as identified English Language Learners, and an additional 229,000 students speak a language other than English at home. Our students and their families come from over 200 countries and speak over 175 different home languages.

This administration is committed to providing our multilingual and immigrant students with equitable access to rigorous instruction and high expectations in a safe and welcoming environment. The science of learning and development tells us that we must provide an education that affirms students' racial, cultural, and linguistic identities. I firmly believe that all people have the capacity for growth. It is our responsibility, then, to build and strengthen a multi-tiered system of learning and development that equips adults with the competence and confidence to create the conditions for all learners to thrive so that students leave school as positive forces for change, on a pathway to independence. We fully recognize that as a system we need to do better to improve outcomes for English Language Learners.

The COVID-19 pandemic disproportionately impacted our multilingual and immigrant students and families, many of whom serve as essential workers or live in the neighborhoods hardest hit by the pandemic. Remote learning was especially disruptive for our ELL students who benefit most from an in-person learning environment. Our full return to in-person learning this year provides all students with the sanctuary and support they need each day.

As the city continues to turn the corner on COVID, we must support every student in their recovery. We cannot return to the way things were before, and I'm thankful to this Council for your advocacy that has helped to make much of this possible.

With federal stimulus funding and the support of this Council, we made a historic \$350 million investment to support schools with meeting the social, emotional, and academic needs of students. This includes an allocation targeted at multilingual learners, with weights for newcomer and long-term ELLs and students with interrupted/inconsistent formal education. Using

formative assessment data, every school was required to determine multilingual learners that may need additional support and intervention, and subsequently design a support plan for those students. In addition, NYC Public Schools made a historic investment to bring to 100 percent Fair Student Funding (FSF) for all schools. The FSF formula includes weights for ELLs that schools can use to provide ELL services.

We know that families are our closest partners in helping students thrive and we recognize that communicating with our immigrant families was especially challenging during the pandemic. As part of the Chancellor’s commitment to empowering families, we are welcoming all families as partners and will be seeking their input on the policies that affect their children. We want to bring in our parents who are not typically engaged with the school system and elevate their crucial voices. I would like to thank the Council for being partners in this critical effort and for its unprecedented \$4 million investment in language access to NYC Public Schools to improve outreach, engagement, and communication with multilingual and immigrant families. With this funding, we are working with immigrant-led community-based organizations and other stakeholders to pursue several initiatives, including a “Know your Rights” citywide campaign for families of students with disabilities, enhancing the Parent University platform, interpretation training for bilingual school staff, and strengthening language access supports in hard-to-reach communities.

Our shared mission is more vital than ever given all our school communities have been through. We know that there is much more to do to ensure that every student and family receives the support they need to be successful. I look forward to our continued partnership and thank you for all you do for NYC Public Schools.

I would now like to turn it over to Mirza, who will share a more detailed account of our efforts to support our multilingual and immigrant students and families during these unprecedented times.

*Testimony of Deputy Chief Academic Officer, Mirza Sánchez-Medina*

Thank you, Deputy Chancellor Quintana. I also want to begin by thanking Chair Joseph and all the members of the Education Committee for providing us with this opportunity to discuss our efforts on behalf of multilingual and immigrant students and families.

Before I begin, I would like to provide you with an overview of my background. I have been an educator for 36 years. I was first recruited from Puerto Rico to be a bilingual chemistry teacher at Martin Luther King High School. In 2003, I founded Manhattan Bridges High School and designed the school to specifically serve ELLs. I led the school as principal for over 15 years. I joined the Division of Multilingual Learners in 2019 with the goal of improving outcomes for our multilingual learners and immigrant students citywide. While we have seen increased graduation rates for ELLs over the past several years, from 34.7 percent prior to my arrival to the most recently announced 60.3 percent, we still have considerable work to do to ensure every student can access and attain high quality instruction in a supportive and inclusive environment.

The Division of Multilingual Learners serves the unique needs of students who speak a language other than English at home. To accomplish this, we focus on programs and services, capacity building, and family and community partnerships. This includes strengthening, sustaining, and scaling bilingual education programs; developing research-based resources and targeted professional learning opportunities; supporting the college and career readiness of multilingual learners; and supporting families to exercise their rights to make informed decisions about their children's education through targeted resources and training for our families and school-based staff.

Throughout the pandemic, we have provided targeted support to ensure continuity of services for our multilingual learners, including priority for devices, technical support in families' home languages, and instructional units designed specifically to support their learning.

For school year 2020-21, schools developed updated ELL service plans to address the needs of multilingual learners during remote and blended learning. These updates included the use of digital curriculum and texts in students' home languages, online videos to build background knowledge and vocabulary, and virtual parent engagement in families' preferred languages.

As we fully resumed in-person learning in Fall 2022, we took a multifaceted approach to supporting our multilingual learners that started during the summer.

We allocated approximately \$8 million to schools in all five boroughs to conduct outreach to multilingual learners in the summer and early fall. This included wellness checks with students and families to identify any social and emotional support needed and to collect valuable information on our multilingual learners' language development during the pandemic. To support the academic recovery efforts Deputy Chancellor Quintana shared, our office offered guidance and professional learning on screening and the use of data to support student progress. For our schools with bilingual Spanish programs, we ensured that screeners were available in both English and Spanish. Schools with an existing bilingual education program also received funding to purchase or develop classroom libraries in their home language.

As we planned for a full return to in-person learning, we further considered the type of programs and resources schools serving a high number of multilingual and immigrant students and families would need to make them feel engaged and welcomed. We provided these schools funding to support Dream Squads, school-based teams designed to cultivate a safe and inclusive environment for multilingual learners, immigrant youth, and undocumented students. We also created programs to help schools strengthen family engagement and cross the digital divide.

Finally, strengthening graduation rates and postsecondary readiness for multilingual learners and immigrant students remains a priority. With stimulus funding, we designed the Immigrant Ambassador Program: an initiative that matches our immigrant students with CUNY students to foster mentorship and early college awareness. We also expanded the Postsecondary Readiness for ELLs Program to provide multilingual learners and immigrant students with culturally responsive advising toward a postsecondary pathway of their choosing.

To support our overaged and under credited ELLs, we are focused on re-engagement and dropout prevention, particularly for those who took on work or additional responsibilities to support their families during the pandemic. Our division is working closely with school communities and advocates to strengthen and scale what works best for our older ELLs, including expanding access to ELL-focused transfer schools in areas of need. We have heard valuable feedback from advocates and the City Council on the need for us to do better to support these students and we look forward to continued dialogue and collaboration on this important work.

Communicating with families during remote learning was a significant challenge for schools. To ensure our multilingual and immigrant families remained informed during remote learning, we continued to provide translation and interpretation supports for schools to communicate with families in their preferred language, including over-the-phone interpretation services 24/7 in over 350 languages. We engaged with multilingual community groups and media outlets to share key updates around the device survey, remote learning survey, and Parent University. We also conducted live workshops for families in languages other than English alongside our community partners and city agencies such as the Mayor's Office of Immigrant Affairs. The funding allocated by the Council towards language access is enabling us to strengthen this important work.

We recognize that we are only at the beginning of the recovery process. Supporting the needs of ELLs will be one of our most important ongoing priorities, and we will adjust and refine our approach to ensure all of our students receive the targeted services they need to excel. We will continue to address the detrimental effects of the pandemic on our students' development while giving them a strong academic foundation so that they can thrive in school and in life. ELL students and their families will be our partners as we transform NYC public schools and create more equitable outcomes for all students. We welcome the continued partnership of this Committee in pursuit of these goals.

We are now happy to address any questions you may have.



**The New York City Council Committee on Education  
Honorable Rita Joseph, Chair**

**City Council Hearing: *COVID Impact on English Language Learners (ELLs)*  
February 28, 2022**

**Testimony of the New York Math Academy and Coaching Services**

Thank you honorable Chair Joseph for caring about the impacts of COVID-19 on Immigrant families and ELL academic achievement. My name is Francois Nzi, founder and Executive Director of New York Math Academy and Coaching Services - also known as NYMACS. NYMACS is a Harlem based Academic support program offering tutoring and individualized services for immigrant youth and families in Central Harlem and South Bronx. I'm here representing the NYIC Education Collaborative to request a \$2.1M initial investment for a pilot program to increase access to quality school options for newly arrived, high-school-aged immigrants.

For over a decade, NYMACS has helped hundreds of older immigrants from west Africa's french speaking countries enroll in schools that meet their academic and social needs. We seek to find schools that can fuel our student's academic success, which even before the pandemic was extremely difficult for older adolescents, especially those who are 16 or older. Unfortunately, every year we are confronted with the same challenges to find older youth quality public school options.



Right before the pandemic, a parent reached out to our organization to help him find a school for his 17 years old son who just arrived in the US from Senegal. Because we were unable to help him with an adequate school, the young man ended up matriculating in a nearby charter school. That school, regrettably, was not equipped to give him the support or programming that he really needed. Three months later he was already considering dropping out of school out of frustration.

Then in March 2020 came COVID-19 -- which deepened the desperation. It is tragic that due to the pandemic - and being in a program that was simply not a good fit - he ended up dropping out. Nevertheless, this young man was resilient. Today, at 19 years old, he is finally back in high school -- this time to an ELL transfer school -- but one which is sadly very far from his home. And now he has even less time and more pressure to graduate.

This is why we are asking for \$2.1M for a pilot program to increase access for older immigrants like my student. If this young man had more opportunities available to him then, his situation would have been completely different. And if ELL transfer schools were available in all the places where immigrants lived, all older adolescent students would have an option ready to meet their needs.

Thank You for this opportunity to testify.



# Advocates for Children of New York

Protecting every child's right to learn since 1971

## Testimony to be delivered to the New York City Council Committee on Education

### Re: COVID Impact on English Language Learners

February 28, 2022

#### Board of Directors

Eric F. Grossman, *President*  
Kimberley D. Harris, *Vice President*  
Harriet Chan King, *Secretary*  
Paul D. Becker, *Treasurer*  
Carmita Alonso  
Matt Berke  
Matt Darnall  
Jessica A. Davis  
Lucy Fato  
Robin L. French  
Brian Friedman  
Caroline J. Heller  
Jamie A. Levitt  
Maura K. Monaghan  
Jon H. Oram  
Jonathan D. Polkes  
Veronica M. Wissel  
Raul F. Yanes

#### Executive Director

Kim Sweet

#### Deputy Director

Matthew Lenaghan

Good afternoon. My name is Rita Rodriguez-Engberg and I am the Director of the Immigrant Students' Rights Project at Advocates for Children of New York ("AFC"), an immigrant and a former ELL. For 50 years, Advocates for Children has worked to ensure a high-quality education for New York City students who face barriers to academic success, focusing on students from low-income backgrounds. The Immigrant Students' Rights Project advocates for better educational opportunities for English Language Learners ("ELLs") and immigrant families in New York City public schools.

Prior to the pandemic, the needs of ELLs and immigrant families went largely unmet. For decades, the roughly 140,000 ELLs in our city's public school system have consistently performed well below standards in reading and math, with only 9% of ELLs proficient in reading and 19% of ELLs proficient in math in 2019. In 2020, only 46% of the City's ELLs graduated high school in four years, and almost 1 in 4 ELLs dropped out of high school. Parents of ELLs often tell us that they feel excluded from their school communities and have difficulty communicating with school staff in their home language.

The pandemic has unfortunately only served to exacerbate the inequities that have long impacted ELLs and immigrant families. For example, ELLs have a right to receive English as a New Language ("ENL") instruction to help them develop their English language skills, but many ELLs did not receive this instruction during the pandemic. Although over 40% of DOE parents speak a language other than English at home and some have low or no literacy in their language, the DOE relied almost exclusively on web and email communications in English during the pandemic. The DOE's reliance on digital communication and delays in providing translated information resulted in families being left in the dark and unable to participate in their children's education.





**Advocates for Children  
of New York**  
Protecting every child's right  
to learn since 1971

In 2021, AFC saw an increase in the number of newly arrived, older immigrant youth seeking to enroll in New York City schools for the first time. Unfortunately, there are few DOE schools able to provide the support these students need to be successful. The DOE's "ELL transfer schools" provide this supportive learning environment, but there are only five such schools, four of which are in Manhattan.

I am here today to urge the City to fund three proposals that advocates believe will have a positive impact on our ELLs and immigrant families.

First, to address the ELL achievement gap, we urge the City to invest \$12M for 120 schools with underperforming ELLs to hire an ELL Instructional Specialist. ELLs require targeted language and academic instruction to meet their unique needs, but too often we encounter long-term ELLs who have not received enough support and cannot read or write despite being in high school. The ELL Instructional Specialist, a pedagogue who reports to the school principal, would be responsible for ensuring that all ELLs, including ELLs with disabilities, at their school are receiving grade-level instruction in core subjects, developing age-appropriate literacy, receiving additional academic support where needed, and on track to pass to the next grade.

Second, to address the lack of supportive high school options for older, newly arrived immigrant youth, we urge the City to allocate \$2.05M to launch programs to support ELLs, ages 16–21, at existing non-ELL transfer schools in Queens, Brooklyn, and the Bronx. This funding would enable four schools in FY 23 to hire ENL teachers and bilingual social workers, offer culturally responsive wrap-around supports and services, and provide professional development so that all educators are prepared to support newcomer immigrant youth.

Finally, to ensure immigrant parents receive school-related information and can play a meaningful role in their children's education, the DOE needs to strengthen its efforts to communicate with immigrant families, taking into account families' varying levels of literacy and access to digital media. The City invested \$4 million this school year for immigrant family communications and outreach, but this funding will expire in June 2022 and will be limited in reach. The City should invest and baseline \$6 million in FY23 to establish a permanent, central system for immigrant family communications.

Congratulations to Chair Joseph and all the new Education Committee members; we look forward to working with you. Thank you for the opportunity to testify today.

**Brooklyn Headquarters**

150 Court St, 3<sup>rd</sup> Fl  
Brooklyn, NY 11201  
**T:** (718) 643-8000  
**F:** (718) 797-0410

**Queens Office**

37-10 30<sup>th</sup> St, 2<sup>nd</sup> Fl  
Queens, NY 11101  
**T:** (718) 937-8000  
**F:** (347) 808-8778

**Queens 2 Office**

37-14 30<sup>th</sup> St, 2<sup>nd</sup> Fl  
Queens, NY 11101  
**T:** (718) 937-8000  
**F:** (347) 808-8778

**Bronx Office**

966 Morris Park Ave,  
2<sup>nd</sup> Fl  
Bronx, NY 10462  
**T:** (718) 643-8000

**AAFSC @ Khalil Gibran International Academy**

362 Schermerhorn St  
Brooklyn, NY 11217  
**T:** (718) 237-2502  
**F:** (347) 808-8778

**AAFSC @ the NYC Family Justice Centers**

Bronx: (718) 508-1222  
Brooklyn: (718) 250-5035  
Manhattan: (212) 602-2800  
Queens: (718) 575-4500  
Staten Island: (718) 697-4300

## Testimony of Arab-American Family Support Center Before the New York City Committee on Education

Friday, February 25th, 2022

I would like to begin by thanking the Committee Chair, Councilmember Rita Joseph; the Committee on Education; and the entire New York City Council for holding this crucial oversight hearing on the COVID-19's impact on English Language Learners (ELL). My name is Salma Mohamed, and I am the Partnership & Capacity Building Specialist at the **Arab-American Family Support Center (AAFSC)**. I am a Muslim, Arab-American daughter of Egyptian immigrants. I am honored to testify today on behalf of marginalized immigrant and refugee families throughout New York City.

At the **Arab-American Family Support Center**, we promote well-being, prevent violence, prepare families to learn, work, and succeed, and communicate the experiences and needs of the people we serve. Understanding that our services are more essential than ever, we have expanded our reach across programs and launched new initiatives to meet the heightened need for adult education classes, translation services, academic enrichment for youth, mental health services, domestic violence case management support, cash assistance, access to health insurance, food security, and much more.

We welcome all those who are in need, but with **27** years of experience, we have developed a research-driven, community-focused, trauma-informed, culturally responsive, and linguistically-competent approach to serving New York's growing Arab, Middle Eastern, Muslim, and South Asian (AMEMSA) communities—communities that have been historically underrepresented and underserved. Our staff is representative of our client base, we speak **36** languages, including Arabic, Bangla, Russian, Spanish, and Urdu, and we take a trauma-informed and intersectional approach to all our work, enabling us to serve populations that mainstream providers are largely unable to effectively reach.

**AAFSC** provides services out of all five boroughs. In addition to providing support out of **13** physical locations, including the Mayor's Office to End Domestic and Gender-Based Violence, Family Justice Centers in each borough, we offer in-home case management in every neighborhood of New York City.

Since **1994**, we have dedicated ourselves to centering the lived, intersectional experiences of the communities that we serve in all our work to ensure we are adequately addressing the challenges our communities face. Seeing the increase in need, in **2021**, **AAFSC** scaled our efforts to provide wraparound support, serving **10,000** people. English language learners have historically had to face an onslaught of challenges from discrimination to socioeconomic stress. The pandemic has further exacerbated these challenges.

While we are tremendously inspired by our communities' resiliency throughout COVID-19, we are conscious of the ongoing challenges they face. **AAFSC** completed a [COVID-19 Impact Survey](#) with over **300** households in our network and found that **55%** of families experienced barriers in their remote learning, the most common of which was inadequate internet access. Additionally, immigrant New Yorkers and English Language learners were some of the most disproportionately impacted by the pandemic; we have seen rising food and economic insecurity as well as an increase in stress, anxiety, and depression. **74%** of respondents reported that their income was impacted by COVID-19-related factors, and **45%** of respondents reported feeling "down, depressed, or hopeless" at least "several days" in the last two weeks, all of which impact their ability to learn. These findings demonstrate the urgency of mental health and job preparedness needs.

Research shows a direct relationship between literacy levels and positive social and economic indicators. Yet, today in New York City, one out of three adults (**2.2 million** people) lack English language proficiency, a high school diploma, or both. This enormous gap reflects decades of insufficient investment and an underlying lack of understanding and support for immigrant education and its crucial role in society. Immigrant communities face

enormous challenges, and English is often a major barrier to accessing services and improving a family's socioeconomic situation. Having fled conflict and poverty, many clients we work with had limited educational opportunities in their home countries and interrupted formal schooling. The COVID-19 pandemic exacerbated these challenges for youth – literacy gains and ESOL education, already challenging with in-person instruction, are rendered particularly difficult with remote learning, leaving the public-school students with whom we work without the specialized attention they require to make literacy gains.

Immigrants are essential to the NYC economy. In **2017**, the NYC Mayor's Office of Economic Opportunity found that immigrants comprise of **37.2%** of the city's population but **44.2%** of the labor force. Additionally, the Office found that over three-quarters (**77.5%**) of undocumented immigrants are in the labor force compared to the city's U.S.-born population (**64.9%**). Another report that was published in November of **2015** by the New York State Comptroller examined the role of immigrants in the New York City economy. The report found that more than **1.9 million** immigrants (including **297,000** commuters) work in New York City and accounted for **\$257 billion** in economic activity in **2013**, which was almost one-third of the City's total gross product. Additionally, the ten neighborhoods identified by the Census with the highest concentrations of immigrants accounted for almost one-third of the City's business growth between **2000** and **2013**. While immigrants keep the NYC economy running, we do not appropriately invest in English language learners.

**AAFSC** leverages our trusted position to support our communities in navigating the challenges of the COVID-19 pandemic coupled with being an English language learner.

To address COVID-19's impact on English language learners, **AAFSC** requests that the City ensures that all legislation addresses the unique and multi-layered challenges AMEMSA English language learners face and prioritizes community-based organizations that provide culturally and linguistically competent services for funding for Citywide Initiatives. Specifically, we request the City:

- Enhance funding to trauma-informed and culturally and linguistically competent CBOs through the Adult Literacy Initiative, Adult Literacy Pilot Program, and Cultural Immigrant Initiative.
- Enhance funding and advocate for the use of community-based organizations for competent translation services.
- Fund community education programs that work to create a safe space for young people and adults to access academic tutoring, mentorship opportunities, and leadership development in a linguistically and culturally competent manner. **AAFSC's Young Adult & Youth Program** served **125** young people in **2021** and **AAFSC's Adult Education and Literacy Program** served **700** adults in **2021**. **Only 140 of those students were funded.**
- Advocate for, and fund, culturally responsive initiatives that use disaggregated data to highlight culturally specific needs without reinforcing problematic narratives.
- Champion the Coalition for Asian Children and Families' *Lost in Translation* campaign and support plans this year to partner with a hospital to improve language access in healthcare settings.
- Allocate city funding to provide public benefits for all income-eligible New Yorkers, regardless of immigration status. Continue allocating emergency funds to communities who did not receive other forms of pandemic related government aid.
- Commit to supporting immigrants and refugees with culturally and linguistically competent services. The **Arab-American Family Support Center** works to conduct regular cultural competency training with our city and community partners, but with your support, we can amplify our impact and empower immigrants and refugees across all five boroughs.

Thank you once again for this opportunity to testify. As always, the **Arab-American Family Support Center** stands ready to work with you in ensuring that all New Yorkers have access to the services they need to lead safe and fulfilling lives.



**Testimony of Kaveri Sengupta, Education Policy Coordinator  
Coalition for Asian American Children and Families (CACF)**

**Committee on Education Oversight Hearing  
February 28, 2022 at 1:00PM**

**Introduction**

My name is Kaveri Sengupta, and I am the Education Policy Coordinator at the Coalition for Asian American Children and Families (CACF). Thank you, Chair Joseph and members of the Committee on Education for giving us this opportunity to testify.

Founded in 1986, CACF is the nation's only pan-Asian children and families' advocacy organization and leads the fight for improved and equitable policies, systems, funding, and services to support those in need. The Asian American Pacific Islander (AAPI) population comprises 18% and growing of New York City, or over 1.3 million people. Many in our diverse communities face high levels of poverty, overcrowding, uninsurance, and linguistic isolation. Yet, the needs of the AAPI community are consistently overlooked, misunderstood, and uncared for. We are constantly fighting the harmful impacts of the model minority myth, which prevents our needs from being recognized and understood. Our communities, as well as the organizations that serve the community, too often lack the resources to provide critical services to the most marginalized AAPI. Working with over 70 member and partner organizations across the City to identify and speak out on the many common challenges our community faces, CACF is building a community too powerful to ignore.

As a result of the model minority myth, challenges facing AAPI English Language Learners (ELLs) are often overlooked in public discourse. Typically, media and policymakers limit discussion of AAPI students' experiences to the impacts of academic screening and SHSAT policies. This is the case despite the fact that only about 10,300 AAPI students attend specialized high schools, while over 42,700 AAPI students are ELLs. Accordingly, a number of our members specifically work with English Language Learners from diverse AAPI backgrounds both within and outside of school, and CACF member organizations primarily serve limited English proficient, low-income, and/or immigrant families. In addition, both current and former ELLs are part of CACF's youth leadership program, the Asian American Student Advocacy Project (ASAP), which educates, trains, and equips its Youth Leaders to be self-aware and informed advocates for their communities. Today, CACF asks the City Council to hold our public education system accountable to our communities' needs. We urge the Department of Education to implement targeted policies to support AAPI ELLs across New York City Schools.

**AAPI English Language Learners: Statistics**

- In the 2020-2021 school year, nearly half of ELLs in NYC public schools were born in the United States. The third highest number were born in China, the fifth highest in Yemen, the sixth highest in Bangladesh, and the ninth highest in Uzbekistan.

- In the 2020-2021 school year, of the top 10 languages spoken at home by ELLs, six were languages spoken in Asia: Chinese, Arabic, Bengali, Urdu, Uzbek, and Tadjik.
- Nearly 25% of ELLs in NYC public schools are AAPI.
- Nearly 20% of AAPI students in NYC public schools are ELLs.
- In the 2020-2021 school year, AAPI ELLs had a 62% graduation rate and a 14% dropout rate.
- Arabic, Chinese, Bengali, and Urdu are also all within the top ten languages spoken by Students with Interrupted/Inconsistent Formal Education (SIFE), at second, third, fourth, and eighth highest respectively.
- Five of the top ten home languages spoken by ELLs with IEPs are AAPI languages, namely Chinese, Arabic, Bengali, Urdu, and Punjabi, along with 105 other unlisted languages which likely include AAPI languages as well.
- In the 2018-2019 school year, a significant number of District 75 students were ELLs speaking AAPI languages, including - Arabic: 164, Bengali: 369, Chinese - any: 161, Chinese - Cantonese: 114, Mandarin: 256, and Urdu: 93.

#### **Recommendations to better serve AAPI ELLs:**

- **Culturally Responsive-Sustaining Education (CRSE).** CRSE allows students to bring their full selves into school, representing and honoring their backgrounds. It is necessary to support ELLs with transitioning back into in-person instruction and adapting to pandemic-related changes, and key to helping all students develop empathy for one another, particularly given the rise in reporting of anti-Asian sentiment and violence.
  - **Recommendation:** Ensure that ELLs have access to culturally responsive-sustaining education and all corresponding curricular materials and pedagogy, including the Universal Mosaic Curriculum, and explicitly incorporate AAPI experiences into curriculum.
- **Access to enrichment.** ELLs deserve opportunities to engage in academic enrichment, which benefits all students. All students can thrive in environments that encourage critical thinking, problem solving, and deep learning.
  - **Recommendation:** Ensure ELLs have access to academic enrichment programs, and move away from exclusionary policies that shut them out of these opportunities.
- **Academic support.** CACF has repeatedly heard from our member organizations that ELLs need additional, targeted academic support, given that they can test out of their status at different levels of English proficiency and are subsequently not provided with resources they still need.
  - **Recommendation:** Fund additional support for ELLs, such as ESL or bilingual teachers to work with students after school. This is particularly critical for those who struggle with English language and reading comprehension, which are gaps that bleed into struggles with other subjects.
  - **Recommendation:** Provide enrichment for ELLs addressing the fact that those who test out of ELL identification often have inconsistent levels of English proficiency and may not receive adequate support with English language acquisition.
- **CBO partnerships & language access.** CBOs often directly serve AAPI ELLs and their families, and bring expertise in culturally responsive and linguistically accessible practices.

- **Recommendation:** Invest in more school and community-based organization (CBO) partnerships in school districts with AAPI immigrant and ELL populations that are often hard to reach, to provide language accessible and culturally responsive related social support and enrichment programs.
- **Recommendation:** Baseline \$6 million for language access funding to DOE to expand on the \$4 million allocated last year. CACF has collaborated with DOE and other advocates over months to ensure our AAPI students and families feel the impact of those funds.
- **Mental health and social-emotional impact.** The pandemic has had a disproportionate impact on AAPI ELLs and their families, who typically live in multigenerational homes and lack equitable access to healthcare, and thus also had a disproportionate social emotional impact. In NYC, Chinese New Yorkers had the highest COVID-19 mortality rate of all racial/ethnic groups, and South Asian New Yorkers the highest rates of infection and hospitalization in 2020.
  - **Recommendation:** Cultivate English Language Learners' ability to access mental health support in their language by hiring social workers, school counselors, and other mental health professionals who are bi/multilingual in AAPI languages, center informed cultural humility, and are able to understand and navigate the unique ways that students and families from different backgrounds may view mental health. Leverage the Home Language Survey in the hiring process for school staff to hire qualified, multilingual, diverse staff.
  - **Recommendation:** Organize a network/resource pool of multilingual social workers in schools across the city who can refer to and support one another if needs arise depending on students' background, preferred language, etc.
- **Better data collection and disaggregation.** The DOE does not collect data on AAPI ethnic groups, which disregards the unique social, educational, and economic differences associated with different Asian ethnicities and thus impedes the ability to provide targeted services. Home language data should be coupled with ethnicity data for a more complete picture of students' experiences and challenges. There is also a lack of transparency around languages spoken by bilingual school staff, resulting in difficulty for advocates and other stakeholders to identify gaps in services.
  - **Recommendation:** Release a comprehensive English Language Learner Demographic report for school years 2019-2020, 2020-2021, and 2021-2022, including raw data on outcomes and identities on OpenData with the ability to cross-tabulate.
  - **Recommendation:** Release the Diversity Report for 2020-2021 aligned with Local Law 59 with analysis on the impacts of changes in admissions processes with regard to ELL enrollment.
  - **Recommendation:** Collect and make transparent disaggregated enrollment (including G&T, screened/unscreened, and specialized schools), academic outcomes, suspension and discipline, and IEP referral data of AAPIs in all schools and districts by ethnicity, gender, home language, ELL status, ability, and socioeconomic status, and provide the ability to cross tabulate between fields.
  - **Recommendation:** Provide more transparent data around ELL designation and the proper identification of learning disabilities for AAPI students.

- **Recommendation:** Collect and publish data on school counselors, social workers, Family Healing Ambassadors, and other adults who support mental health and well being, disaggregated by ethnicity and languages spoken, to better assess the landscape of mental health professionals in schools across the city.
- **Recommendation:** Provide data identifying how many ACS calls were made on AAPI students, disaggregated by ELL status, to better understand the scope of accounts teachers using ACS on families (who may be unaware of this process) stemming from cultural insensitivity and potentially sowing further mistrust in nurses, social workers, and counselors who often participate.
- **Special education.** AAPI students are more likely to be diagnosed with speech or language impairments than their peers, partly because ELL students are overly represented as having these impairments. However, on the whole, AAPI students are under-referred to special education services.
  - **Recommendation:** Develop and provide professional development for teachers and administrators on distinguishing between language acquisition and special education needs.
  - **Recommendation:** Address the under-referral of AAPI students for special education services/lack of diagnosis for learning disabilities to ensure that needs are properly identified and met - unrecognized needs can also contribute to additional stressors and mental health issues for students.
- **Students with Interrupted/Inconsistent Formal Education.** Open questions remain about the implementation fidelity of the SIFE screening tool, and identification processes are not very precise. Thus, there are differences between SIFE students that are lost that would support schools to better serve these students.
  - **Recommendation:** Reassess the screening tool and its implementation for Students with Interrupted/Inconsistent Formal Education (SIFE) to more explicitly incorporate the ways in which students' educational experiences differ.

### **Impact of the COVID-19 Pandemic on AAPI English Language Learners:**

Throughout the pandemic, our member organizations have reported that COVID-19 has had a particularly detrimental impact on English Language Learners. One organization working directly in a school serving a large number of AAPI ELLs saw a rise in these students coming to their program specifically for academic support. Our partners expressed concern for students who lack access to the kinds of support their program offers because their schools do not have the resources or partnerships necessary, or because the students themselves were unequipped with devices or reliable internet.

ELL students also found remote learning especially difficult, particularly if they lived in multi-generational households or had no choice but to attend virtual classes in common spaces. These circumstances resulted in students often feeling unable to turn on their mics and engage with class, and therefore missing vital opportunities to acquire spoken language acquisition skills. For example, one high school sophomore was experiencing a great deal of academic stress, as she was living with her family of four in a tight space without privacy. Her parents were not consistently working due to COVID-related schedule

changes, and she found it difficult to concentrate due to the noise in her home. This student had previously been struggling with academics, and remote learning compounded the difficulty - she felt she did not understand most of the material and was too far behind, she did not want to turn on the mic due to the noise and was consequently unable to talk to her teachers, and overall, she felt ashamed to ask for help.

Another typical situation illustrating the challenge is of an ELL high school sophomore who was living with her mother and older sister, and was left to navigate government websites on immigration as well as benefits resources and updates for her family after travel restrictions led to her sister getting stuck in China from before the pandemic to late October 2020. Her sister's return meant that it fell on this student to contact the DOE to find a school for her older sister as well as tutor her sister on academics because she was struggling with the language barrier and remote learning. Her mother had recently fallen sick as well, and this student was responsible for gathering information about the vaccine and ensuring that her mother is able to receive it. This student juggled these extremely challenging circumstances, often during class time, while also learning remotely and completing her schoolwork as the marking period neared its end. Clearly, COVID has had and continues to have a significant harmful impact on this student's learning, as well as her sister's.

Both lack of bilingual school staff and lack of culturally responsive practices continue to yield barriers for AAPI ELLs to fully participate in their school communities. Another CBO in our membership serves a public school in Chinatown with over 70% of Chinese immigrant families with limited English proficiency (about 280 families). Only one staff member at this school, the Parent Coordinator, knows Chinese. One of the CBO's afterschool students is new to the English language and his grandmother informed them that he was pushed many times by other students and got hurt. He was sent to the school nurse, but because none of the school teachers or staff can communicate with him in Chinese, he doesn't know who he can go seek help from if these incidents occur. Properly addressing the root causes of bullying and cultivating empathy and inclusion with explicit reference to AAPI experiences are critical to preventing these occurrences from escalating to begin with.

As has been well documented, the COVID-19 pandemic has led to a rise in reporting of anti-Asian sentiment and violence, and the impact has very much been felt by ELLs and their families. Similarly, the dearth of adults in the school building equipped to support students and families in their home language, even though their experiences very much impact their learning, result in compounded difficulties. Another afterschool ELL student at this CBO was a witness to an anti-Asian attack against her mother and was traumatized. This student's mother has not been willing to talk about it, even though the student really wants to and needs to talk about it with her mother. She has expressed worry and fear about not feeling safe living in her Chinatown/Lower East Side neighborhood.

### **Conclusion**

As we continue to contend with the repercussions of COVID, in which existing disparities continue to grow, we must be sure to center all of our decisions on our most marginalized students and avoid neglecting those who may have previously been ignored. We must build a public school system that puts the needs



of students it has historically marginalized first in all decisions, defining their well-being and success as the measure of its strength. Indeed, the system cannot be deemed successful if it continues to neglect our most marginalized students.

Our communities are consistently overlooked in the distribution of resources, which is harmful to us as well as other communities of color who are denied the same resources due to the perceived “success” of AAPIs. This pandemic has highlighted a myriad of holes in our City’s safety net systems, and the City’s response must address root problems in addition to immediate needs. Our community will continue to suffer every day we allow these flaws in the system to exist. As always, CACF will continue to be available as a resource and partner to address these concerns and look forward to working with you to better address our communities’ needs.

City Council Committee on Education Testimony 2/28/22 at 1:00PM

Submitted by Lois Lee, Director of Chinese American Planning Council (CPC)

CPC has ECC, COMPASS, BEACON programs in 3 boroughs. As one of the CPC Directors, I see ELLs who are feeling discouraged, disconnected and lost. Resulting in increasing number of runaways and suicides in ELLs community. We need the city to invest more than just language support, but to be able to transition them into the education system and society, by investing and developing supports for culturally competent curriculums that encompass social emotional well-being as pathways for students to be successful.

These are our concerns about ELLs based on what I have been hearing from teachers, parents and students in the Early Childhood Centers, COMPASS afterschool programs, Flushing International HS, Queens International HS of Health and Sciences, YABC, and Lower East side Prep transfer school.

1. The ELLs in afterschool centers are unable to complete homework assignments saying "I don't know" and I can't understand my morning school teacher. Our COMPASS staff has to reteach concepts as they try to complete the homework assignments. During the pandemic, our COMPASS programs have been operating remotely and in person lessons. If the ELLs are have a difficult time learning even with CPC staff supports, what about ELLs who don't have the support. What is the data on ELLs learning loss? Please continue to fund DYCD COMPASS and youth programs.
2. The parents are complaining about the Dual Language programs thinking their children can utilize their Chinese language skills in completing assignments. However, Parents are saying that the Chinese assignments are too hard even for them and the schools are not teaching basic Chinese. There is no City wide Dual Language curriculum and every school creates its own. In other states, like CA there is a curriculum. Parents feel their kids are now behind in English and in Chinese. The learning loss is great here too. There needs to be a Parent Advisory Group in developing dual Language Curriculum.
3. High School juniors and Seniors in International High School like Flushing International High School and Queens High School of Health and Sciences and YABC have collaborations with CPC programs. However, since COMPASS programs are located in public schools and Early Childhood Centers are funded by DOE, the high school interns need to be PETS fingerprinted. These immigrant students need to do community service (work/study) as part of their graduation requirements. In order for them to work at my ECC, the FIHS principal said he will pay the \$135 PETS fingerprint cost so the interns can get worksite placement. At another international high school, the administrator said that his student is willing to pay the \$135 for the 3 month internship, since he doesn't have the budget. Our own ECC Budget can't handle all the internships costs. Nevertheless, the international high schools really need our programs to be worksites to fulfill graduation requirements. Can the City Council and DOE have a conversation on how to waiver the fingerprinting cost for high school students who are still in school for

their internships. Why is fingerprinting necessary for these student volunteers. Since the pandemic, we have heard of HS immigrant students committing suicide, running away from home, since they feel isolated and unseen. CPC called all the local hotels to find the runaway student when NYPD couldn't. We have reunited the families and counseled many others.. With the summer coming, there will be more High School students looking for worksite placements. DYCD and DOE last summer waived the fees for COMPASS and BEACON, what about Early Childhood Centers? The immigrant students can improve their English as well as translate for the young 2-5 year olds in Chinese, Spanish, Bengali, etc. since their English Skills are on the basic level. Our interns feel a sense of belonging at these community based organizations. One of the interns is from Afghanistan and is worried about her Muslim family members. She is comfortable in our school setting. We can't let future interns and SYEPs down by imposing a burdensome DOE PETS fingerprint cost. I have spoken to numerous Early Childhood Centers Directors who welcomed the SYEPS and need their help, but for the past several years have not been able to participate in the program due to the fingerprint costs.

It is regrettable that immigrant youth are dropping out in staggering numbers, at a rate now five times that of their native English-speaking peers and quality public school programs are inaccessible for thousands of immigrant newcomers. CPC is the community based organization that works with the Lower East Side Prep. there needs to be more programs like LES Prep in the outer boroughs which will help lower the drop out rates. Therefore, we request a \$2.1M investment for a transfer school pilot, to increase access to newly arrived, high-school-aged immigrants' in supportive schools that are located in areas where they live.

4. We need a City Council hearing with the NYC Deputy Chancellor of Early Childhood Education to address the disparities and inequities in City funded Early Childhood Centers and DOE District Early Childhood Centers.
5. With the severe shortage of bilingual educators, we need to have a pathway for paraprofessionals and teacher assistants in Community based Early Childhood Centers to have a pathway to teacher certification. They have the language skills needed to help new immigrant students ages 2-4 years old, and to converse with ELLS parents on parenting skills and navigating the education system especially for special needs students.
6. Thank you Education Chair Rita Joseph and the City Council members for understanding how ELLs are being left behind and how we can move forward.

Thank you for the opportunity to submit this testimony on behalf of the **New York City Council's only Early Literacy Initiative, City's First Readers\***.

To address the impact of COVID on English Language Learners we need to start with our youngest learners. Long-term investments in immigrant families with children five and under is a preventative approach that can ultimately mitigate the negative impact of the pandemic. City's First Readers is one of the best and most effective ways to accomplish this critical task.

**Prevention beats intervention every time.**

I invite you to view our panel "**Moving Through and Beyond COVID: How Positive Early Childhood Experiences Mitigate the Impact of Trauma.**" You can view the webinar [here](#)<sup>1</sup>. Thank you again to Councilmember Dinowitz for participating.

There are over a half million children<sup>2</sup> under the age of five in NYC. **44.5% of them live in low income households** (below 200% of the Federal Poverty Level - \$25,750 for a family of four), and **76% of children under the age of five are children of color.**\*\*\* Because of structural and systemic racism, rates of child poverty are higher among children of color compared to their Caucasian peers. The burden of poverty is greatest for immigrant children<sup>3</sup>. The pandemic has made this worse. It is estimated that 325,000 additional children have been pushed into COVID related poverty<sup>4</sup>. The number of homeless New Yorkers has risen to the highest point since the Great Depression, and the largest demographic within the homeless population is children.<sup>5</sup> Approximately 45% of the children in Department of Homeless Services facilities were 5 or younger prior to COVID.<sup>6</sup>

During the pandemic, many families were eligible for benefits – such as enhanced unemployment - that helped them with their financial survival. Unfortunately, many immigrants were not eligible for these safety net programs. And even when they were eligible, such as for the child tax credit, immigrant families reported significant delays in receiving the funds or simply not receiving them at all<sup>7</sup>.

Families, with children five and under, who lack resources for their basic needs including food and shelter are also unable to access key educational resources, such as books and toys, that support children's foundational learning at a time when 90% of children's brain development takes place. Gaps in learning opportunities and resources impact English language learners from birth.

Young children have largely been spared serious illness as a result of COVID. This does not mean they have not suffered. A disproportionate number of immigrants are employed in the labor force and in roles deemed essential. As a result, a disproportionate number of immigrant parents were consistently facing high levels of stressors, including exposure to COVID. Many died. More than 4,000 children in New York State have had a parent or caregiver die because of COVID; 57% of these children live in New York

---

<sup>1</sup> <https://www.youtube.com/watch?v=aa7BDYRuJOE>

<sup>2</sup> 2019 census and CCC data

<sup>3</sup> [https://scaany.org/wp-content/uploads/2021/02/NYS-Child-Poverty-Facts\\_Feb2021.pdf](https://scaany.org/wp-content/uploads/2021/02/NYS-Child-Poverty-Facts_Feb2021.pdf)

<sup>4</sup> <https://uhfnyc.org/publications/publication/covid-19-ripple-effect-impact-covid-19-children-new-york-state/>

<sup>5</sup> [The Children in the Shadows: New York City's Homeless Students](#) September, 2020

<sup>6</sup> ["NYC Has a Family Homelessness Crisis. Who are the Families?"](#) Brand, City Limits, December 2017

<sup>7</sup> <https://19thnews.org/2021/09/undocumented-families-excluded-child-tax-credit/>

City<sup>8</sup>.<sup>[iv]</sup> It is abundantly clear to those of us who work with young children every day - they are not immune to the stress and trauma of the pandemic.

Fortunately, **there are proven and effective strategies that directly impact the early learning opportunity gaps that English Language Learners face and that protect them from the effects of trauma.** These are the strategies that City's First Readers partners have *always* used to support immigrant children and their families.

**City's First Readers delivers this prevention.**

City's First Readers' strategies are:

1. Delivering free, high quality, and culturally relevant early literacy programming that decades of research show position children for academic success and result in improved long-term outcomes that help break cycles of urban poverty.
2. Providing tools for parents to create safe, stable and nurturing relationships – what the American Academy of Pediatrics coins relational health<sup>9</sup> – that interrupt the experience of trauma and help children thrive.

The Council recognized the power of early literacy when it initiated City's First Readers in FY15. Eight years later, City's First Readers is an impactful coalition of 17 partners that create equity of opportunity for children birth-five who are impacted by systemic poverty. As a coalition, City's First Readers engages approximately one million families annually creating powerful early learning opportunities that ensure New York City children have a solid foundation to start school successfully, thrive academically and succeed beyond their school years.

City's First Readers is active in all 51 council districts reaching English language learners and their families in every NYC neighborhood. City's First Readers uses a unique cross-sector approach that reaches families multiple times in places where they naturally are such as pediatric offices, family day cares, local library branches, parks, community spaces and even in families' homes. City's First Readers approach is impactful, and it works. That is why in 2015 the American Academy of Pediatrics Council on Early Childhood endorsed City's First Readers.

**\*FY22 City's First Readers partners include: Arab-American Family Support Center, Brooklyn Public Library, Committee for Hispanic Children and Families, Hunts Point Alliance for Children, JCCA, Jumpstart, Literacy Inc, Literacy Partners, New Alternatives for Children, New York Public Library, ParentChild+ (delivered locally by Child Center of New York, Family Health Centers at NYU, and SCO Family of Services), Reach Out and Read of Greater New York, Queens Public Library, and Video Interaction Project.** For more information about City's First Readers, please visit:

**[citysfirstreaders.com](http://citysfirstreaders.com) | [cfr@lincnyc.org](mailto:cfr@lincnyc.org) | 212.620.5642 x147**

---

<sup>8</sup> <https://uhfnyc.org/news/article/uhf-report-4200-children-nys--lost-parent-covid-19/>

<sup>9</sup><https://cssp.org/2021/07/forging-ahead-aap-calls-for-pediatricians-to-partner-with-families-and-communities-to-promote-relational-health/>

Dear Councilmembers,

Thank you for providing the space to discuss the impact of COVID-19 on ELL students.

My name is Xingyu Xiao, and I am a member of Asian-american Student Advocacy Program (ASAP) which is a youth advocacy group under Coalition for Asian American Children and Families (CACF). As a part of the language access team in ASAP, we focus on the problems which ELL students face. So today, I am going to mainly talk about the problems which ELL students face especially during the pandemic.

As a new student for an American public high school, the first time I touched the school life was online class. I felt it was difficult not just because I was not good at English. In class, the efficiency of the class decreased a lot. In order to make sure every student was listening to them, some teachers would ask one student several times, and the student didn't reply to them. Besides that, asking questions became harder during the pandemic. If I had a question about my homework, I had to send an email to my teacher or wait for their tutoring time. The budget of time in communication was increased during the pandemic. Moreover, it was interesting to note, group work became more difficult. Since the teacher was not in the breakout room, my group members just turned off their cameras. Most of the time I felt awkward because I thought I just talked to myself. If I put forward an idea, some of my group members just put "I agreed" in the chat and kept silent again. And some of my group members even never replied to me. In this situation, group work became individual work. Online class is also a kind of intangible barrier which prevents me from making friends from other languages. Since I was an ELL student, I was not confident with my English skill. Thus, I preferred to stay in my comfort zone and make friends with students who spoke the same language as me, or kept silent until teachers or someone asked me a question, which was not a good way to improve my English skills. In addition, I found parents also lacked support for translation on materials given out by school. Oftentimes, my parents and I were clueless about city's updates or guidelines for school due to language barrier. For the times when we had access to these materials and resources, they were not translated. Being an ELL student, I am not able to provide adequate translation. Thus, we rely on online translation services, which were not able to provide us with the full context.

Language is necessary and significant in our daily life. Without support in language, it is hard for ELL students to thrive in school and it is a challenge for parents to stay engaged and informed. Thus, I am asking the City Council to ensure there is adequate and equitable support for English Language Learners in NYC.

Thank you,

Xingyu Xiao

February 28, 2022



**Adult Education**

294 Smith Street, Brooklyn, NY 11231

(t) 718.624.3475

(f) 718.210.0113

[www.FifthAvenueCommittee.org](http://www.FifthAvenueCommittee.org)

March 2, 2022

Written testimony for the New York City Council Committee on Education:

Good morning, my name is Zulma Vizcarrondo, ESL Coordinator at Fifth Avenue Committee in Brooklyn NY. Thank you for the opportunity to testify.

This is our 4<sup>th</sup> year working on the LIFE Project helping families with the enrollment process for PRE- K and 3K! I work with my colleague Ana Rong Wu, who provides Chinese translation.

We share out information on Pre-K and 3K very broadly in our community - we make presentations at the end of Sunday mass, we use WeChat, we go to all the places in our community that families normally go to.

Fifth Avenue Committee has assisted over 100 families with enrolling their children in PRE-K and 3K programs. And we have served over 500 families with workshops on the enrollment process, deadlines, and appeals.

We're serving families that may not have access to the internet or a device and so we meet with them and work with them individually. We discuss their options and complete the application together and we continue to support our families after placements are announced. We also advise families about services for children with special needs.

The families we work with say that having someone guide them through the whole process makes an enormous difference. Many families would not be able to participate in Pre-K or 3K without this type of individual support from someone they feel comfortable with. We need to be able to continue providing this incredibly valuable service to our community.

In order to continue the LIFE Project and expand it to other communities, we are asking for \$4 million dollars to fund 20 CBOs across the five boroughs.

Thank you,

Zulma Vizcarrondo



Who: Rita C. Joseph, Chair and Members: Shaun Abreu, Alexa Avilés, Carmen N. De La Rosa, Eric Dinowitz, Oswald Feliz, James F. Gennaro, Jennifer Gutiérrez, Shahana K. Hanif, Kamillah Hanks, Shekar Krishnan, Linda Lee, Farah N. Louis, Julie Menin, Mercedes Narcisse, Lincoln Restler, Pierina Ana Sanchez, Lynn C. Schulman, Althea V. Stevens and Sandra Ung

What: KAFSC Testimony for the Committee on Education-COVID Impact on English Language Learners (ELLS)

When: Monday, February 28, 2022 at 1:00pm

Thank you, Chair Rita C. Joseph and the members of the Committee on Education for giving us the opportunity to testify. KAFSC provides social services to the immigrant survivors and their children who are affected by gender-based violence. All our programs and services are offered in a culturally and linguistically appropriate setting.

KAFSC's Hodori After-school program serves Asian American students from kindergarten through 8th grade, who are from families at or below the federal poverty level with immigrant parents or caregivers. Our Hodori After-school program targets students who are under the care of single parents who constantly struggle financially and are challenged by cultural and language barriers. We also target children who are victims of domestic violence or sexual assault, as well as children who are indirectly affected from being exposed in their own households.

Our program supplements and supports the myriad of challenges faced by our APA students, many who are immigrants themselves and are ELL students. The beginning of every school year we conduct an assessment and find that close to 100% of them never finish their homework on time. They struggle to meet metrics and their report cards show difficulties in their classes.

Challenges due to limited English proficiencies exacerbate already existing issues due to family violence at home, poverty, and cultural differences. Teachers and administrators at school often lack cultural competencies necessary to properly engage these APA students and often make assessments or decisions based on standards that do not take into account the cultural nuances that are extremely relevant in developing the correct academic plan for these children.

The model minority myth is in direct contradiction to the fact that many APA students from immigrant families display serious emotional, social, and behavioral difficulties. Our APA children require additional support from school counselors to mitigate and work to reduce stressors in the school environment that hinder not only their academic performance but also their social-emotional development, increase their self-esteem, and develop healthy communication skills. Our counselors and teachers at KAFSC work with the families in our Hodori after-school program to specifically address the gaps in the education system that overlook our APA immigrant student population and the failings of school educators and administrators to fund and resource proper protocols for families to address their child's unique needs and challenges.





Particularly, the COVID-19 pandemic and subsequent closings of schools and businesses highlighted these gaps even further. When schools closed in March of 2020 then remote learning, our afterschool teachers spent extra hours to bridge the digital gap and navigation of the school system. Many of our families have multiple children. Majority did not then and still do not have the adequate number of digital devices for virtual school. Not only were our families hindered by lack of digital devices and access to the internet, they were facing new web-based platforms like Google Classrooms or Zoom which required many additional hours of tech support and training. Particularly for the immigrant children and children of immigrant parents, between remote learning and recent in-person learning have been a huge burden as our parents and caregivers have been struggling financially. Our Hodori after-school program continues to operate via online classes however we still have students that can't participate today because they don't have the proper support at home to help with remote learning, lack a digital device, or are unable to access the internet.

Thank you again for the opportunity to testify on this important issue today.



**The New York City Council  
Committee on Education  
Oversight Hearing –COVID Impact on English Language Learners  
February 28, 2022  
Written Testimony Submission from Legal Services NYC**

**Introduction**

Good afternoon and thank you for the opportunity to testify regarding learning loss and other struggles for English Language Learners and Limited English Proficient students and their families during the COVID-19 pandemic.

Legal Services NYC (LSNYC) is the largest provider of free civil legal services in the country. We are dedicated to fighting poverty and seeking racial, social, and economic justice for low-income New Yorkers. Over the course of fifty years, LSNYC has challenged systemic injustice and helped clients meet their basic needs for housing, access to high-quality education, health care, family stability, and income and economic security. Through litigation, advocacy, education, and outreach, we work to protect the rights of immigrants, veterans, the LGBTIQ+ community, people with disabilities, and other vulnerable constituents. Our neighborhood-based offices and outreach sites across all five boroughs assist more than 100,000 New Yorkers annually.

The Education Rights practice at LSNYC assists hundreds of New York City schoolchildren and their families each year to ensure access to education. We support English Language Learners (ELLs), limited English proficient (LEP) students their parents, and other vulnerable student populations and their families with a host of education issues

including school enrollment, language access, special education, disciplinary proceedings, transportation, disability accommodations, and academic intervention services. Over 80% of our student clients are children of color and/or immigrants ranging in age from 3 to 21. Our clients experience a range of behavioral, emotional, and developmental disabilities including autism, attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), the disabling impacts of trauma/adverse childhood experiences (ACEs), and depression. Our goal is to assist ELL and LEP students, along with other vulnerable populations, to improve educational outcomes and to target and fight systemic inequities. We train, assist, and collaborate with community-based organizations, pro bono attorneys, and elected officials to broaden our impact. In 2021, LSNYC founded the Healing-Centered Schools Task Force, a coalition of parents, students, educators, advocates, and mental health providers working to bring trauma-informed, healing-centered practices NYC schools.<sup>1</sup> We also coordinate a Citywide Educational Law Task Force for educational advocates, and participate in a number of other task forces and coalitions to increase our understanding of the needs of low-income students and to more broadly and collaboratively address individual and systemic issues facing English Language Learners and the other student populations that we serve.

### **Disparate Negative Impacts of COVID-19 for ELLs and LEP families**

The COVID-19 pandemic has laid bare the racial and socio-economic inequities that exist in our society – including in our city’s education system. Many low-income immigrant

---

<sup>1</sup> Community Roadmap to Bring Healing-Centered Schools to the Bronx, Legal Services NYC, <https://www.legalservicesnyc.org/what-we-do/practice-areas-and-projects/access-to-education/community-roadmap-to-healing-centered-schools> (last visited Feb. 26, 2022).

families suffered high rates of food insecurity, job loss, sickness and death due to COVID. ELL and LEP students, many of whom are people of color, have also had to grapple with highly publicized instances of systemic racism and violence. Some of our clients, who had already experienced violence and trauma in New York or in their native countries experienced heightened anxiety, stress and even additional trauma. Tragically, these vulnerable families frequently were shut out of important supports and services for their children at high rates due to the systemic technological divide and language access and communication failures. LSNYC has taken on a number of individual cases as well as group litigation to combat inequities exacerbated by the COVID-19 pandemic.

Since schools initially closed in March 2020 and throughout the COVID-19 pandemic, our Education Rights work has focused on helping our clients navigate the challenges of remote and blended learning, helping families access internet, learning devices, and necessary technology, and otherwise protecting the rights of students in kindergarten through 12th grade to receive an education during COVID-19 related school closures. As early as December 2020, reports emerged suggesting that lack of technological devices, inconsistent internet access, and the absence of live instruction from teachers had set students back academically during COVID-19 an average of five to nine months.<sup>2</sup> Students in vulnerable populations who did not have access to remote learning devices or

---

<sup>2</sup> Emma Dorn et al., COVID-19 and learning loss-disparities grow and students need help McKinsey & Company, Dec. 8, 2020, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help> (last visited Feb. 26, 2020).

reliable internet and families with low technological expertise were especially adversely affected.<sup>3</sup>

Low-income English Language Learners (ELL) and limited English proficient (LEP) students suffered higher rates of learning loss due to the digital divide. Statistically, these immigrant families are less likely to have access to computers and high-speed internet and have overall lower digital skills and training than their English-fluent counterparts.<sup>4</sup> Moreover, students from households where English is not the primary language experienced additional learning loss and academic setbacks due to NYC DOE's inadequate interpretation and translation services for limited English proficient parents. Indeed, ELL and LEP families with whom we work frequently complain that they never or rarely receive communication or correspondence in their preferred languages, and they rarely receive interpretation and translation services from their children's schools. This made it considerably more difficult for them to support their children's learning during a time when parents and computers had to fill the roles of teachers and books. This lack of language services also made it difficult or impossible for ELLs and their LEP parents to receive important information, get in touch with teachers and services providers, and communicate

---

<sup>3</sup> Digital and Economic Divides Put U.S. Children at Greater Educational Risk During the COVID-19 Pandemic, <https://www.prb.org/resources/economic-and-digital-divide/> (last visited Feb. 26, 2020).

<sup>4</sup> Alexis Cherewka, The Digital Divide Hits U.S. Immigrant Households Disproportionately during the COVID-19 Pandemic, Sept. 3, 2020, <https://www.migrationpolicy.org/article/digital-divide-hits-us-immigrant-households-during-covid-19>; see also Office of the Comptroller of the City of N.Y., Overcoming NYC's Digital Divide in the 2020 Census at 5 (July 2019), [https://comptroller.nyc.gov/wpcontent/uploads/documents/Census\\_and\\_The\\_City\\_Overcoming\\_NYC\\_Digital\\_Divide\\_Census.pdf](https://comptroller.nyc.gov/wpcontent/uploads/documents/Census_and_The_City_Overcoming_NYC_Digital_Divide_Census.pdf) ("2019 Comptroller Report") (last visited Feb. 26, 2020).

with schools about missed IEP services, the need for compensatory supports, and other concerns.

### **Our Clients' Stories**

One example of this is our client, J.J., who is an ELL, and his mother H.A., whose primary language is Bengali. J.J. was in kindergarten when schools first closed due to COVID-19. His family did not have a computer or device for him to use to access remote learning, so his mother requested one from the school. Unfortunately, the device took a while to arrive, and when it did arrive, the connection to the internet was often spotty. On top of this, the only instructions H.A. and J.J. received on how to connect to the remote learning platforms and participate in lessons were in English, so even when the school-provided device was working, H.A. was not always able to help J.J. access his classes. This continued during the 2020-2021 school year, when the school-provided iPad became even less functional and H.A. could not get technical support or remote learning and other COVID information in Bengali. Now, J.J. has fallen far behind in his reading and writing and his grades are low. As noted in a December 2020 New York Times article, “While the disruptions of 2020 have threatened learning loss for nearly all students across the country, the toll has been especially severe for students who come from immigrant homes where English is rarely if ever spoken.”<sup>5</sup> In addition to in-class instruction, ELL students such as J.J. learn from speaking and interacting with their peers and observing how peers and teachers respond to language cues. So much of this is lost during remote learning. Thus, the

---

<sup>5</sup> Juliana Kim, “With Remote Learning, a 12-Year-Old Knows Her English Is Slipping Away,” New York Times, Dec. 29, 2020, <https://www.nytimes.com/2020/12/29/nyregion/coronavirus-english-language-students.html> (last visited Feb. 26, 2022)

realities of the digital divide coupled with his status as an ELL has meant that, between technological issues and language barriers, J.J. often missed out on his lessons entirely.

Indeed, most parents who did not already have the technology and digital literacy to access the online platforms necessary for remote instruction have struggled to receive information they need regarding their children's education and have struggled to communicate with teachers, mental health counselors, and school administrators during this time. The systems these students should be able to interact with have been overwhelmed and continue to be ill-equipped to meet ELLs and LEP families with understanding, empathy, and flexibility necessary to accommodate students severely impacted by the effects of the pandemic. Now, in the third year of the pandemic, many of these families and children continue to have significant barriers to accessing remote learning and to understanding the academic content. These students have fallen behind and require systems in place to ensure they receive compensatory services and support, along with free and functioning computers, free internet, and other necessary technology.

Take, for example, our client J.S., who is currently a second-grade student with special needs. After struggling with remote learning without a working computer during the 2019-20 school year, the then six-year-old J.S. and his LEP parent, A.L, had hoped that the 2020-2021 school year would be better. J.S. was placed in a NYS approved non-public school for students with learning and behavioral issues and told that he could attend the school five days per week in person. Due to staffing shortages and an inability to comply with the student's IEP mandates, the school refused to allow J.S. to attend in person. Consequently, he was forced to attend school remotely from September 2020 through most of January 2021. Although J.S.'s mom made many requests for a remote learning device,

she waited for months to receive one, and when it finally arrived, it did not function properly. A.L. also had to purchase internet services, which posed a financial hardship for her. Even with internet, her child's learning device regularly malfunctioned and J.S. lost out on learning and mandated special education services. LSNYC filed an impartial hearing demand and helped the family to receive compensatory educational services including tutoring, make up services for missed speech and language, and occupational services, and various independent educational evaluations to better assess J.S.'s needs going forward.

### **Ongoing Adverse Impacts of COVID and Need for Better Systems and Interventions**

With the resurgence of the pandemic this school year due to Omicron and other COVID-19 variants, the integration by New York City public schools of remote learning on snow days and during other school closures, and the increased reliance on technology for remote learning and education, generally, it is clear that systems must be put into place to ensure that students like J.J. and J.S. are able to access all of the educational services to which they are entitled. The DOE must take concrete steps to bridge the digital divide and to ensure that all students have functioning devices, high speed internet and training and support to ensure remote access capability.

To that end, LSNYC, along with co-counsel, recently filed a lawsuit in New York State Supreme Court to demand that the New York City Department of Education (NYC DOE) and New York State Education Department establish effective systems to ensure that no student is denied their constitutionally-mandated education, and that all students can fully participate in remote learning, that families have access to the devices and internet required for schooling at no cost, and that all students who need it receive compensatory education



services to address learning loss during the pandemic.<sup>6</sup> We are also currently litigating against the NYC DOE in federal court to ensure regular and consistent translation and interpretation services for ELL and LEP students.

Although we are seeking redress for our clients and students like them through litigation, there are many things the City Council and the NYC DOE could do to improve access to education for ELLs and all low-income public-school students. Specifically, these students would benefit from programs designed to:

1. Address and eliminate the digital divide so that all low-income families, including low-income ELL and LEP students, have access to free computers and free high-speed internet to ensure equitable access to learning.
2. Assess the need for compensatory education, including AIS, among all public-school students, but particularly ELLs and students from LEP families, and develop an expedited process for remedying the lost educational opportunity students have suffered during COVID-19.
3. Develop an effective system to ensure that families of ELL students or with LEP parents receive pertinent information about remote learning and other educational access in their preferred language.

## **Closing**

In closing, we thank the Education Committee for holding this oversight hearing and for providing a space for the public to testify about the impact of COVID on English

---

<sup>6</sup> See *S.M. v. Hochul*, Index. No. 161610/21, New York Supreme Court, Summons & Complaint available at <https://iapps.courts.state.ny.us/fbem/DocumentDisplayServlet?documentId=BGlowWN7bmCgzixgl4ar2A==&system=prod> (last visited Feb. 26, 2020).

Language Learners. With more than three million foreign born residents from more than 200 different countries, New York City has one of the most diverse populations in the world. According to the Department of City Planning More than 1.8 million people in are not English proficient.<sup>7</sup> New York City public schools have nearly 370,000 students whose families speak a language other than English at home, and there are over 140,000 students who identify as English Language Learners.<sup>8</sup> It is unjust for ELLs and students from LEP families to be denied equal access to an education. New York City must figure out a way to make sure these students aren't left behind, especially during these tumultuous times.

Respectfully submitted,

Tara Foster  
Senior Attorney  
Legal Services NYC  
Telephone: 347-592-2234  
Email: tfoster@lsnyc.org

---

<sup>7</sup> City Planning, NYC.gov, <https://www1.nyc.gov/site/planning/about/language-access.page> (last visited Feb. 26, 2022).

<sup>8</sup> 2020-21 ELL Demographics At-a-Glance (nyced.org), <https://infohub.nyced.org/docs/default-source/default-document-library/sy-2020-21-ell-demographics-at-a-glance.pdf> (last visited Feb. 26, 2022).



Written testimony for New York City Council Oversight Hearing -  
**COVID Impact on ELL - February 28,2022**

Thank you for the opportunity to testify today on a topic very directly related to the work we do day in and day out across NYC. We would like to convey two important concepts in our testimony today:

- 1) **The benefits of reaching ELL pupils early**
- 2) **Viewing early literacy as an essential response to the pandemic**

We knew long before COVID that **early literacy programming, especially for children five and younger, is an effective preventive measure**, mitigating the effects of structural inequities and preparing students to enter school ready to learn. The experiences that are precursors to reading – singing, talking, drawing, playing, and being read to – prepare children to love reading and acquire proficiency by the time they are tested in school.

The Department of Education’s own data support the conclusion that reaching children early has significant, positive impact. Looking at the 3rd grade 2019 ELA test scores analyzed by ELL status,

- proficiency was achieved by only 21% of current ELL pupils. Not surprising, these are children who are currently receiving ELL services but being tested in English.
- Also not surprising, the 57% proficiency score attained by children who have *never* needed and *never* received ELL services.
- The big surprise is in the category of former ELL students. These are children who, by the time they reached 3rd grade, had already **completed** the full array of ELL programming offered by the DOE; these third graders reached an astounding 73% proficiency level, one of the highest cohorts of any of the data segments DOE shares. Although not cross referenced in the test score analysis, one can safely project that these former ELL children would also have a high percentage of economic insecurity.

This success speaks to the effectiveness of reaching children early and often. Those who need additional support to become proficient readers **can** succeed if they receive that support in time to transition from “learning to read” to the more challenging “reading to learn.” Achieving this success up the grade level ladder may logically entail an even greater investment because students will have spent more years in their mother tongue or have experienced interruption to their formal education. But with adequate support, ELL students can achieve.

If this early support works so well, ask yourself: who else might benefit from that extra period of language arts instruction but is ***NOT*** getting this additional support? Answer: Children living in poverty who speak English at home. This would include many Black children. Early and often can support more than ELL students, it can support ***all at risk*** children.

A lot has been written about the learning loss experienced by students throughout the pandemic, especially for students living in poverty, especially for students of color. But relatively little has been discussed about the loss of stimulation and the deprivation of experiences suffered by very young (birth through age five) as they have been isolated in homes without a sufficiency of educational resources, missing out on those key (and fun!) activities.

These children have not been designated as English Language Learners since they are not yet in school but these future ELL students will arrive in a DOE classroom with their challenges compounded by COVID. In a brief about the importance of early literacy that LINC distributed to all candidates for city office in June, we made the point that “we can expect to find, overall, that very young children who have been isolated throughout the pandemic:

- Lag in cognitive and social skills, especially those that grow from interacting with peers.
- Are less likely to have these lags noticed by parents, because the opportunities to observe other babies and toddlers interacting with one’s own child have been reduced.<sup>23</sup>

As welcome as the increased access to programming provided by expanded 3K and PreK services is, we are especially concerned by the hastened rollout of 3K for All. We worry that with the rush to make up for time previously lost to funding shortages and the pandemic, early childhood educators, some of whom will inevitably be new or not highly qualified, will overdiagnose behavioral problems rather than see the immaturity fostered by isolation. Labeling children of color, including ELL pupils, for behavioral issues was already a concern prior to the pandemic. While in theory, identifying a child as having special needs can generate additional resources or a small class setting, in practice, those resources all too often fail to materialize. What remains are low expectations of students in special education and ELL programs. The education system is already taxed with complex logistical issues for reopening but must provide training and support for this early childhood cohort both because this is a fragile, at-risk population and so as not to jeopardize the future of 3K for All.” ELL pupils unquestionably benefit from 3K and PreK - imagine how they could achieve if they and their families had had the opportunity to participate in a quality, community based literacy programming such as LINC provides.

An early literacy program may not seem to be a high-priority public response to COVID when stacked up against such needs as housing, addressing food insecurity, and job creation. In fact, there is a large social-emotional benefit to LINC’s approach and an enormous equity factor to providing access to early literacy, which is the second point of our testimony - the value of daily **reading for more than skills acquisition**. LINC programs provide the books to build a home library and the strategies for parents/caregivers to engage with young children around books, regardless of the adult’s own capacity to read or English speaking status. By starting early, with picture books, and practicing a habit of daily reading together, families can make reading an oasis of calm despite other stressful circumstances, whether directly caused by COVID or a cascade of associated stressors. That daily cuddle-time can anchor conversations and provide deep comfort. Unlike many families of young children not yet in school and isolated at home throughout the pandemic, LINC families had the resources at home to continue providing stimulation to their children. And as you know, the impact of early literacy programming has a wonderful multiplier effect that translates to changes for siblings and households as reading becomes visible and valued for each family member.

**Early literacy must be an important and essential part of our city’s pandemic response  
to rebuild a more equitable city.**

For more information, please contact Eliana Godoy, Deputy Director  
[egodoy@lincnyc.org](mailto:egodoy@lincnyc.org) or (212) 620-5462 ext 103

Founded in 1996 to improve the reading outcomes of children living in some of NYC's highest poverty neighborhoods, LINC operates at the intersection of education and community development.

Our founder, Mimi Levin Lieber, a sociologist with 15 years of service on the NYS Board of Regents, understood both the importance of early literacy and the power of community. She knew that people are any community's greatest asset and that parents, when supported by a mobilized community, could play a unique role in achieving the promise of literacy for all children. LINC works in neighborhoods with significant immigrant populations, where high-poverty persists and where a strong literacy foundation can have a multiplier positive effect.

LINC bases its programs on strategies that research has proven have immediate and long term impact for both children and families. LINC's approach to building literacy moves beyond the child as the sole unit of change and attacks a much broader issue - family and community literacy. Our progress is not measured by the increased achievement of individual children, but by the behavioral changes each family reports and demonstrates about its engagement with books and reading. LINC creates cultures of reading at the neighborhood level.

Our community literacy model is composed of multiple programs conceived as a pipeline of engagement, from low-commitment single events like community Reading Everywhere and Reading Celebration programs, through multi-session series like Parent Workshops and Family Academies, which are workshops for the adults with concurrent activities for children. The ultimate goal of LINC's programming is to move caregivers through this pipeline and enroll them in our volunteer training, the Very Involved Parent Academy, which then prepares them to deliver their own programming, teaching even more families about the importance of early literacy.

**Our programs transform families; our families transform communities.**

In addition to its direct services, LINC is involved in multiple collaborative/collective impact efforts. We are the facilitating partner for the City Council's own early literacy initiative, **City's First Readers**. The seventeen partners serve families with children from birth through five. You have separate testimony from this effort. Literacy, Inc. is also the facilitating partner for **NYCReads**, a collaboration of literacy program providers that serves children from infancy through 5th grade in South Jamaica, East New York and now East Harlem. LINC participates as a member of the **Staten Island Alliance for North Shore Children and Families**, an early childhood collective impact coalition, serving for many years as co-Chair. Most recently, LINC was designated as the lead community partner for the **Northern Manhattan Early Childhood Collaborative**, a cross sector, collective impact effort. NMECC is being launched by Columbia University Medical Center/New York Presbyterian Hospital to assess and strengthen early childhood services in the community.

Right now, LINC is making our programs happen across all 5 boroughs. I invite you as members of the New York City Council's Education Committee to visit one of our online events and experience the joy with which our staff infuse reading. Or as soon as it is safe, because after all we are working with children too young to be vaccinated, join us at an in person event. Thank you again for the opportunity to present today.



@literacyinc



@linc\_nyc



@lincnyc



Literacy Inc.



Literacy Inc.

5030 Broadway, Suite 641

New York, NY 10034

212-620-5462

[www.lincnyc.org](http://www.lincnyc.org)



---

## Literacy Intervention for ELL Students

### Testimony by Phylisa Wisdom, Director of Strategic Partnerships at Literacy Trust

February 28, 2022

Good afternoon and thank you to the members of the Council for convening this hearing and to the new Chairwoman Joseph - my city council member! - for your leadership as we continue a tumultuous time for students across our NYC education system.

My name is Phylisa Wisdom and I am the Director of Strategic Partnerships at Literacy Trust, an education nonprofit that provides professional development and intervention program management to 100+ schools across NYC. Partners learn how to identify struggling readers and implement effective, research-validated reading intervention strategies. We train and support any adult in a school who has time and interest in providing reading intervention, be they teachers, paraprofessionals, teaching assistants, or even parent coordinators. Naturally, this builds the corps of New Yorkers who are able to support on the front lines of our city's growing literacy crisis, which extends beyond K-2 students but certainly impacts them most directly.

As you know, the lost learning opportunities related to shutdowns and operationalizing of hybrid learning has been monumental, especially for our highest needs students. It has required us as organizations, elected officials, community leaders, parents to think creatively and strategically about how we can catch students up on the skills they need to continue their educational careers, even with the extensive trauma they have experienced. This is particularly important as we consider the students who have been hit the hardest—those from high poverty communities and schools, often students of color and English Language Learners.

Our work with reading interventions for students is absolutely crucial in a time like this, when English Language Learners are falling further behind and need support in transitioning from learning to read to reading to learn.

Students learning English as a new language benefit from reading intervention just like their native English speaking peers. We use nationally-normed Acadience assessments to determine if a student is at risk for reading failure, looking at various foundational reading skills such as phonemic awareness, the ability to blend and segment known sounds (decode), phonics, and reading fluency. While these are impacted by ELL status, they can also show schools who is in

need of more English practice and instruction vs. who really needs an intervention because they struggle with foundational reading skills. This kind of work enables schools to offer the most appropriate services to students, ensuring the best outcomes for a wide array of students.

Literacy Trust strives for a New York City where every student can learn to read, regardless of how strapped their school is, what their first language is, or if they have additional learning needs. We know that the ability to read is the foundation of social equality, and if we imagine a more equitable world, increased public school literacy will be part of that process.

Thank you for your time and leadership in ensuring that our systems are prioritizing education equity for our students, and we look forward to continuing the conversation about how we can help all students read and thrive.

Best,

Phylisa Wisdom  
Director of Strategic Partnerships



**The New York City Council Committee on Education  
Honorable Rita Joseph, Chair**

**City Council Hearing: *COVID Impact on English Language Learners (ELLs)*  
February 28, 2022**

**Testimony of the New York Immigration Coalition**

Good afternoon and thank you Chair Joseph and members of the New York City Council Committee on Education. The New York Immigration Coalition (NYIC) is an umbrella policy and advocacy organization for more than 200 groups serving immigrants and refugees across New York State. The NYIC wishes to thank you, Hon. Council Member Rita Joseph for your leadership and concern for English Language Learners and the impacts of COVID-19 on immigrant families and ELL academic achievement.

**We are here to request \$4 million to expand the NYIC's LIFE project and \$2.1 million for the Education Collaborative's First Step program, an immigrant transfer school pilot. Investments in these educational campaigns will address a long-standing injustice that was exacerbated during the pandemic: in New York City, immigrants struggle to access quality school programs at all levels of our public school systems.**

**COVID-19 Impacts on ELLs and Immigrant Families**

During the pandemic, while many immigrant students and families already in the system were feeling especially lost and isolated, many more students and families weren't even able to enroll. Moreover, the New York City Department of Education (DOE) struggled to communicate with immigrant and limited English proficient (LEP) families in their home





language and via accessible forms of communication that do not rely on families having access to the internet. The DOE delayed publishing translations of announcements about major policy changes, including how to access basic services, childcare, how to get, set up, or troubleshoot devices or WiFi, summer school, busing, school closures, how to enroll in school, etc. Due to budget constraints, the DOE also limited their printed and translated communications and publications with immigrant families, making it impossible for many families without internet or digital access to receive up-to-date information, understand their choices, or make informed decisions. It is important to note that these changes have been particularly difficult for our immigrant families who speak languages of limited diffusion, those with low literacy and low digital literacy, those with children who are not only ELLs but also have disabilities, and our undocumented, low wealth and homeless immigrant families.

The pandemic severely compounded our immigrant students' barriers to accessing quality programs and services. The NYIC, our LIFE and Education Collaborative partners, and immigrant-serving CBOs across the city were inundated by newcomer families struggling to find enrollment and communications support. With the closure of Family Welcome Centers, the lack of printed materials informing families of their choices in their home languages, and the massive stress on families to continue to support themselves and their children, far too many eligible students were unable to even enter the education system. The drop in enrollment reflects these serious issues. Therefore, the city must reject Mayor Adams' calls for "across the board" cuts and hiring freezes, and honor its promise to NYC families to not punish schools for pandemic-related enrollment drops. Our current students should not pay the price for the city's broken promise.



Unfortunately, even before the pandemic, the NYC public school system had major gaps in its ability to serve ELLs and immigrant families, and too many families were not even able to access schooling for their children. That is why New York City must finally address the barriers immigrants face and invest in the infrastructure needed to ensure 3k to 12th grade public schools and enrollment processes are fully accessible to immigrant families.

With the recent release of the Mayor’s preliminary budget, it is imperative that we address the proposed cuts to DOE funding. Mayor Adams campaigned on addressing the City’s public safety and his administration has made a commitment to strengthen our education system. Rather than continue a legacy of disinvestment in education, which evidence tells us increases the criminalization of Black and Brown communities<sup>1</sup>, he must invest more in the education system. There is no reason to decrease education funding at a time when students’ academic and mental health needs are more acute than ever and the city is flush with unprecedented levels of federal and state funding. Now is not the time for an austerity budget. To keep the Mayor’s promise, now is the time to make investments in our children’s education and the workforce, services, resources, and opportunities that help our students thrive.

**LIFE Project:** Officially launched in December 2017, the NYIC’s Linking Immigrant Families to Early Childhood Education (LIFE) Project focuses on assisting immigrant families in enrolling in Pre-K and 3-K in communities where the DOE identified lagging or under-enrollment in these programs. The NYIC and our LIFE partners raise awareness of and work to address barriers immigrant families are facing in accessing early childhood programs. LIFE partners

---

<sup>1</sup> [https://scholar.harvard.edu/files/ddeming/files/deming\\_bslc\\_qje.pdf](https://scholar.harvard.edu/files/ddeming/files/deming_bslc_qje.pdf)



Masa, LSA Family Services, and Fifth Avenue Committee have empowered more than 400 immigrant families to navigate the school system and enroll their children in pre-K and 3-K programs. Over the last five years, our pioneering model has proven to be incredibly successful and effective: most notably, despite a large drop in enrollment in 2020, when New York City's preliminary data reported that enrollment in 3-K programs fell by 8% and pre-K programs fell by 13%, LIFE project partners saw no drop in enrollment within the families we assisted.

**In order to continue and expand this successful model citywide, we are asking for \$4 million to fund 20 CBOs across the five boroughs to provide culturally responsive and linguistically diverse outreach, application and enrollment support, referral services, and early intervention support to immigrant families of 3- and 4-year olds.**

**First Step Campaign:** The NYIC's Education Collaborative convenes community leaders from across NYC's immigrant communities at the grassroots level, advocates, and practitioners. With more than 30 years of experience reforming the city's educational system, we have a distinguished track record of improving English Language Learners and immigrant students' access to resources and working with the DOE to address barriers immigrants face. Our member organizations specifically serve the needs of marginalized immigrant communities - including newly-arrived immigrants, low-income families, and youth and adults with limited English proficiency. Our Education Collaborative leaders are fierce champions for our kids and their families and are always striving to ensure our students get a shot at realizing their true potential.



Today, we are asking for \$2.1M in the first year and a commitment to support a 3-year, \$8.3 million transfer school pilot to increase newly arrived, high-school-aged immigrants' access to programs that meet their needs. While the City works to address academic gaps exacerbated by the pandemic, we must remember that thousands of older, newcomer immigrant youth weren't even in school in the first place because they lacked access to programs that met their needs - even during "normal times."

**LIFE Project:**

The NYIC has successfully piloted the LIFE project for the last five years through our CBO partners in close collaboration with the DOE's outreach team. A \$4M investment into a citywide LIFE Project would enable 20 CBOs to conduct a massive outreach effort to inform immigrant families of their eligibility for Pre-K and 3-K programs, meeting families where they are. These programs then work in conjunction with the DOE to provide one-on-one intensive support to LEP parents, taking them through the entire process from learning about school options to enrolling in their program of choice. They support parents with early interventions for students with disabilities, provide extensive referral services to help families of young children access the support they need, and provide this assistance through trusted community-based organizations with the necessary cultural and linguistic capabilities to support immigrant families. Our partners have consistently found that when given the information and opportunity they need, immigrant families of young children are excited to take advantage of quality early childhood education.

**Need**



The pandemic underscored and compounded the profound inequities already affecting immigrant families and ELLs in our school system. Parents struggled to find places to bring their young children, and were kept out of the early childhood system by both a lack of available and affordable childcare and a lack of support in engaging with the Pre-K and 3-K systems. New York City is home to around 156,000 parents of children ages 0-4 who are limited English proficient. Among all parents of children ages 0-4, a staggering 100,000 lack access to a computer, with around 61,000 lacking access to the internet. As New York offers increasingly complex educational choices and moves information and access to those choices further online, the language and digital barriers have become nearly insurmountable without adequate support.

### **Solution**

The LIFE Project reaches families where they are and gives them the support they need. LIFE partners walk their families through the complicated application and enrollment system, which includes a 12-option ranked choice system, questions about income and other eligibility requirements, and a plethora of school choices that can be very intimidating for families with eligible children. They assist families through the early intervention system at an age when language and cultural barriers complicate the delicate process of assessment and then follow through with integrating those results into their school plans.

LIFE partners provide support starting at the true start of the enrollment process, walking families through basics like how to visit the website, how to create an email address, and how to keep track of and respond to account changes. We take families through the MySchools website and help them navigate the online directory to find the right school for



their child. The MySchools enrollment process is notoriously complicated for early childhood, as it blends City-funded 3-K and Pre-K programs with other income-eligible programs without specifying outright their varying requirements. This is particularly challenging to navigate for undocumented families whose eligibility for these programs varies widely.

Finally, the LIFE Project does all its work through CBOs. Undocumented or mixed status families, regardless of the status of the child, are often very hesitant to engage with government agencies of any kind, including the Department of Education. These families often do not feel safe asking questions about their eligibility for certain programs, including those with income or citizenship requirements. CBOs have the community trust, cultural knowledge, and linguistic capabilities to support families at every level.

### **First Step Campaign:**

Since the start of the COVID-19 pandemic, many immigrant families have struggled with disproportionate levels of trauma, illness and loss, unemployment, food and housing insecurity, and the threat of deportation. Unfortunately, pandemic pressures have forced even more older immigrant youth to focus on work or caregiving at the expense of their own education. Enrolling older immigrant youth in schools that acknowledge and embrace their realities is the best way to ensure they can start or continue their education. Therefore, the First Step Campaign is an \$8.3 million, 3-year, pilot program proposal that would address the inadequate number of quality programs that can successfully serve older immigrant newcomers (16 - 21 year olds) in NYC's outer boroughs.

Our member organizations have long reported that older immigrant youth consistently struggle to find quality school placements, especially if they arrived after the age of 16. Many



older newcomers have complex factors that decrease their likelihood of finding an appropriate school placement, including gaps in their formal education and family responsibilities, such as caretaking for their young and elderly family members and contributing to their household finances. Unfortunately, older newcomers living outside Manhattan lack sufficient school options that are both accessible and equipped to meet their complex needs before they age out, which contributes to the atrocious ELL dropout rate. Our member organizations have consistently found that older newcomers and Students with Interrupted/Inconsistent Formal Education (SIFE) students are not being given adequate choices. Unfortunately, many transfer schools do not have the required supports for English Language Learners and therefore do not enroll older ELLs.

### **Need**

Data show that the need is real. Our proposal is supported by a 2022 analysis done by the Migration Policy Institute using Census data, which found that NYC is home to close to 4,000 high school-aged newcomer immigrant youth who are 14-21 years old, are not enrolled in school and do not already have a high school diploma. Nearly 90% of these youth are 16 to 21, the toughest age range to place.

Moreover, New York City's immigrant youth are dropping out in staggering numbers, at a rate now almost five times that of their native English-speaking peers. ELLs have long had an appallingly high dropout rate, which is particularly devastating given the fact that ELLs have the potential to outperform native English-speaking peers when given the right support. Moreover, only 60% of ELLs graduate in time, which greatly affects the overall city graduation rate (81%). Older ELLs and SIFE students face even greater barriers to graduating. In



addition to being academically behind their peers, SIFE students often have a complex and sometimes intensive need for psychological and social support. Improving the options for ELL youth is a critical component of addressing the dropout rate, boosting graduation rates, and improving the mental health of immigrant youth.

### **Solution**

Our solution is practical and strategic. The pilot design grew out of a constructive partnership with the Division of Multilingual Learners and ACCESS, our collective understanding of the existing system capacity, and visits with ELL Transfer Schools, four of five of which are in Manhattan. Our pilot harnesses “regular” transfer schools’ existing expertise serving older and under-credited students in small school settings with rich academic programming and social supports. It then infuses critical best practices from ELL transfer schools, replicating their successful models by integrating literacy development throughout the school day, extensive professional development, ENL teachers, bilingual mental health staff, and community-based supports for immigrant families. The pilot also includes culturally responsive wrap-around support for students and robust professional development to prepare all educators in transfer schools to adequately support recently arrived ELLs. By introducing programs to six transfer schools, the pilot expands access where it is most needed, beginning with two Queens programs, one Bronx and one Brooklyn program, and expanding to two additional schools in the second and third years.

New York City must address the devastating ELL dropout rate and the fact that thousands of our newcomer immigrant youth don’t have access to the public school system. While the City is confronting a public health crisis, we cannot miss the opportunity to address a long-overlooked, silent crisis rooted in systemic inequity. We urge our City Council to not





only be aware of this pressing problem but also to help us fund this much-needed pilot program. Not only will this pilot program change the lives of hundreds of young immigrants, it will also lay out a successful roadmap that other schools can replicate to improve their capacity to serve older, newly arrived immigrant youth. We must finally transform the system, with particular focus on equity, transparency, and justice in order to avoid transitioning the inequalities of the past into the “new post-COVID normal.”

### **Conclusion**

As you hear from the community today about the disproportionate impacts of COVID on immigrant families and ELL student achievement, please remember that for immigrant youth to access and excel in our public schools, we cannot simply “return to normal”. In FY23, the City must make an investment in immigrant enrollment and quality school options for newcomers. A \$4 million investment in the LIFE Project and a \$2.1 million dollar investment in the first year of the First Step Campaign pilot program can help us get there.

Thank you for the opportunity to testify.

Submitted by:  
Andrea Ortiz  
Senior Manager of Education Policy  
New York Immigration Coalition

**Contact for K-12 Education:** Andrea Ortiz, Senior Manager of Education Policy (K-12)  
aortiz@nyic.org

**Contact for Early Childhood and Adult Education:** Liza Schwartzwald, Senior Manager of Education Policy, (Multigenerational Education) lschwartzwald@nyic.org

The New York City Charter School Center  
Jennifer Hall MLL/ELL Specialist  
Written Testimony to the New York City Council Education Committee  
Oversight Hearing on COVID Impact on English Language Learners (ELLs)

Monday, February 28, 2022

Dear Chairperson Joseph and members of the New York City Council Committee on Education. My name is Jennifer Hall and I am the MLL/ELL Specialist for [The Collaborative for Inclusive Education](#), associated with [The New York City Charter School Center](#) (Charter Center). Thank you for the opportunity to present my written testimony.

Multilingual Learners across New York City in district and charter schools alike have experienced some degree of learning loss due to the ongoing COVID-19 Pandemic, especially during the school shut-downs where remote schooling was the only option for our students and families. During this time we are proud that our Charter schools stepped up to the challenge and were quickest to transition to remote instruction for all students. However, even with a quick response, our MLLs/ELLs and their families were disproportionately affected during this period of time for reasons including translation discrepancies, lack of internet access, no affordable child-care options, issues with obtaining needed tech tools, and lack of technical support in the needed home language. These items just touch the surface of the various obstacles multilingual learner families have faced during the pandemic.

These many obstacles have resulted in an immense negative impact on English Language Learner education the past two years with many days and hours lost in vital academic instruction and support. The negative impact of COVID-19 on MLLs/ELLs has also compounded an issue that already existed. Prior to COVID-19, both district and charter schools still had work to do when it came to supporting MLLs/ ELLs, especially in the area of teacher training and support. Extra targeted support and tutoring can only do so much for a student if their teacher does not have the tools and knowledge base to support an MLL/ELL student.

The Collaborative for Inclusive Education is focusing on just that, teacher and leader development in MLL/ELL education. Why? Currently about 80% of the charter sector are members of The Collaborative for Inclusive Education. Within the Charter sector, 9% of students are Multilingual Learners, and many of our schools have priority for MLL families in their lottery. MLL enrollment in charter schools increased by 39% in two years from school year 2019-20 to school year 2021-22. With an increase of MLL student enrollment within the charter school sector comes the need for more teacher professional development targeted towards English Language Learner supports. Both the Collaborative for Inclusive Education and the charter sector have recognized this need. For the past several years, The Collaborative has offered various professional development in MLL/ELL education including, but not limited to MLL/ELL Boot Camp ( a multi-day PD to support new MLL/ELL teachers), Co-Teaching for MLLs/ELLs, Targeting Writing Support For MLLs/ELLs, Academic Language & Vocabulary Instructions for MLLs/ELLs, among various

introductory PDs focused on scaffolding content for MLLs/ELLs at varying proficiency levels. Many of these programs existed pre-pandemic. To sufficiently support our schools we were able to quickly transition all of this programming to remote. Our schools attended our ELL/MLL teacher support events at a high rate and we added ELL/MLL support to meet the need. The Collaborative also launched their inaugural Leadership Cohort for MLL/ELL teacher leaders across the Charter sector. This cohort brings together about 23 MLL/ELL teachers leaders to network, share ideas for supporting MLLs/ELLs, and also create new items that support MLL/ELL programming and academic support. While collaboration between NYC district and Charter schools in this area has been limited under the prior administration, we look forward to using this opportunity to take advantage of building future partnership with districts to share best practices and collaboratively bring educators together to best support these students and families.

The charter sector has been working diligently over the past decade with the support of The Collaborative for Inclusive Education to address the academic and social needs of MLL/ELL families. Throughout the continuing pandemic, the NYC charter sector has been addressing the diverse needs of MLL/ELL families in various and unique ways including creating bilingual family hubs, having weekly curriculum family meetings in multiple languages, and connecting families with various services in order to provide additional support with basic and family needs during this time. We would be interested in having future meetings with this committee to provide anecdotes from the charter sector field to support the decisions the committee makes in the future regarding MLL/ELL students in New York City Public Schools. We thank you for your shared commitment to MLL education and families and look forward to being part of the solutions to address MLL/ELL needs.



## The New York City Council Committee on Education

Honorable Rita Joseph, Chair

City Council Oversight Hearing: *COVID Impact on English Language Learners (ELLs)*

February 28, 2022

Testimony of Next100

Good afternoon, and thank you Chair Joseph and members of the New York City Council Committee on Education. My name is Alejandra Vázquez Baur, and I am a former high school teacher in Miami, a policy entrepreneur at Next100, and a community engagement volunteer at ImmSchools. Next100 is a startup think tank that is changing the face and future of progressive policy by addressing the historical exclusion of individuals and communities from the policymaking table, due to race, ethnicity, immigration status, age, gender, income, educational level, or any number of other factors. We are a diverse set of thinkers and doers, who are developing creative, rigorous, and relevant policy ideas, with a focus on translating these ideas into tangible change. ImmSchools is an immigrant-led nonprofit partnering with educators and community leaders to ensure schools are safe and inclusive for undocumented and mixed-status students and families. I'm grateful to you, Honorable Chair Joseph, for your commitment to the field of education and your concern for ELLs, and for prompting this important hearing.

I am here to share recommendations based on the research I have done at Next100, whom I represent as a member of the Language Access Working Group, and on what I have seen from the students and families as a volunteer throughout the pandemic at ImmSchools.

### Impact of COVID-19 on ELLs and Immigrant Youth

COVID-19 has had a devastating impact on New York City (NYC) families for almost two years now, but the city's immigrant communities have been disproportionately impacted by the pandemic, exacerbating enduring economic, social, educational, and health disparities that immigrant communities faced long before the spring of 2020.

In January 2021, the NYC Department of Education (DOE) released attendance data that demonstrated particularly high rates of **absenteeism** among underserved student populations, ELLs, and students with disabilities in particular. According to an [analysis](#) of this data by Advocates for Children, the attendance rate for tenth-grade ELLs in the fall of 2020 through January 2021 was 10.1 percentage points lower than in the 2018–19 school year. Similarly, the attendance rate for ninth-grade ELLs fell 7.9 percentage points during the same



time period. The absenteeism rates were so high, that ELLs in tenth and twelfth grade missed about one out of every four school days.

[According to the New York State Education Department \(NYSED\)](#), **graduation rates** rose in the 2020–21 school year from 46 percent in the previous year to 60 percent, in part due to changes in the graduation requirements triggered by the pandemic. While we understand the reasoning behind the pandemic-related graduation exemptions, the unprecedented increases in graduation rates raise concerns about whether students who benefitted from these exemptions and graduated during the pandemic are being adequately prepared for their next step—whether that be a college or career pathway. Furthermore, even with these increases, ELLs *still* graduate at a rate that is drastically lower than their native English speaking peers (who graduate at a rate of 84 percent).

The ELL **dropout rate** has always been disproportionately high, and in 2020–21, it remained high at a rate of 16 percent, [more than five times](#) that of native English-speaking peers.

Additionally, according to the Migration Policy Institute, roughly [3,900 newly arrived immigrants](#)<sup>1</sup> aged 14 to 21 were **not enrolled in school** in the period of 2015 to 2019, based on their analysis of U.S. Census Bureau data. The majority of those students were in the outer boroughs, particularly in the Bronx. This is an absurd number of students that could benefit from a NYC education but are not currently enrolled in school—a critical requisite for social and economic mobility. The challenges students face in accessing an education have been severely compounded during the pandemic by the [closure of Family Welcome Centers](#), which provide language support and assist in the enrollment of students upon arrival. Without linguistically accessible information about available programs that best meet immigrant students' needs and clear enrollment guidance, older newcomer youth often face pressure to work—often in essential industries that put them at higher risk of catching COVID-19—or take on responsibilities [caring for younger family members](#).

Alongside these concerns, immigrant and limited English proficient (LEP)<sup>2</sup> families have reported a number of school-related **language access concerns**. Throughout the pandemic, the DOE has failed to publish timely announcements about policy changes, including how to access basic services during the pandemic; how to access, set up, or troubleshoot at-home devices or Wi-Fi; information about summer school, busing, school closures, enrollment

---

<sup>1</sup> Newly arrived immigrant youth includes foreign-born individuals who were aged 14 to 21 and had resided in the United States between 0 and 3 years at the time of the U.S. Census Bureau survey.

<sup>2</sup> We use LEP only with regard to language access and English proficiency, as that is the common terminology used in the field. In other, non-language centered contexts, we refer to our communities as multilingual or immigrant families more broadly.



procedures, and other critical information in the home languages of many students. Additionally, during the pandemic, the DOE has been unable to print all translated materials and partner with key community locations or organizations, adding additional barriers for families without internet or digital access to receive up-to-date information, understand their choices, or make informed decisions about their children’s education and safety.

After two extremely challenging years, immigrant communities and their children need more than value statements. We urge City Council to direct city funding toward efforts to bolster support, programs, services, and resources that will have a direct impact on ELLs and immigrant students so that they can thrive in our schools.

### Recommendations for New York City Council

#### First Step Campaign

Echoing the calls of the New York Immigration Coalition’s (NYIC) Education Collaborative,<sup>3</sup> Next100 is asking for a three-year, \$8.3 million commitment, including \$2.1 million in the first year, to support a transfer school pilot to increase access for newly arrived, high-school-aged immigrants to programs that meet their academic, social, and emotional needs. Public school options that do not meet the needs of older newcomer immigrant youth *in their own neighborhoods* are one of the many barriers for enrollment. Yet, we know that there *are* schools capable of supporting this population. There are five ELL transfer high schools in NYC which specialize in serving newly arrived immigrant youth who are over-age and under-credited. These schools tend to be smaller than your typical high school and have robust wrap-around services and support for our youth. However, four of the five ELL transfer schools are in Manhattan, while MPI’s data suggests that the majority of these youth live in the Bronx, Queens, and Brooklyn.

The aim of the additional funding is to expand access for newly arrived immigrant youth to the city’s existing non-ELL transfer schools. There are forty transfer schools in the Bronx, Brooklyn, Queens, and Manhattan which already serve older, under-credited students but do not specialize in ELLs or older immigrant newcomers. With additional funding and resources, six of these transfer schools will be able to hire the necessary bilingual staff, obtain the appropriate training and materials, and provide the services that ELL transfer schools provide.

---

<sup>3</sup> The NYIC’s Education Collaborative convenes community leaders from across NYC’s immigrant communities at the grassroots level, advocates, and practitioners. Member organizations specifically serve the needs of marginalized immigrant communities—including newly arrived immigrants, low-income families, and youth and adults with limited English proficiency.



This pilot has the potential to have a broad systemic impact. In addition to the hundreds of youth whose lives will be transformed by having a school that meets their needs and is accessible to immigrant families *in their own* communities, the pilot will test a model that all schools can replicate to better serve older, newcomer immigrant youth and will develop best practices and identify solutions to common challenges in building this capacity.

Every student deserves a real chance at an education, and in a city as progressive and diverse as NYC, every immigrant student should have access to an education—as is their federal right—regardless of their citizenship status, where they come from, their English proficiency, if they have gaps in their education, or if they are unaccompanied.

### **Language Access For All**

The Language Access Working Group, a coalition of advocates and organizations from across NYC including Next100, is requesting that the City Council baseline a \$4 million investment in language access infrastructure in the upcoming FY23 budget.

Last year, the City Council granted [\\$4 million](#) to the DOE to implement the [NYIC Communications Plan](#) and to develop linguistically responsive communications infrastructure and marketing strategies to meaningfully engage immigrant and LEP communities. During the pandemic, the DOE relied on parents to play a critical role in supporting their children's education at home, yet immigrant and LEP families were consistently left in the dark about important updates and policy changes. The DOE has struggled throughout the pandemic to communicate with immigrant and LEP families in their home language and via communication modalities that do not rely on families having access to the internet (robo-calls, pamphlets, radio, community and ethnic media, etc). This has been especially hard for families that speak languages of limited diffusion and for parents who are not literate and/or not digitally literate. The DOE even delayed publishing translations of announcements about major policy changes, including how to access basic services, how to get, set up or troubleshoot devices or WiFi, summer school, busing, school closures, etc. that directly impacted students' ability to access appropriate education services and supports. As a result of widespread community organizing by members of the NYIC's Education Collaborative, the City Council made an initial investment of \$4 million in language access that has played an important role this school year.

Those funds have provided the unique opportunity for the DOE to cultivate critical partnerships with immigrant-led CBOs, parent leaders, and other important community stakeholders to implement the programs and campaigns that this funding is making available. The funds were also used to formalize the partnership between the Language Access Working Group and the DOE, and we have met on a weekly basis since August of 2021. Our goals have



been to: (1) ensure the DOE could properly meet the needs of NYC’s immigrant and LEP families during the pandemic by identifying and incorporating effective, community-informed engagement strategies; (2) work with DOE employees to co-develop communications and engagement policies and campaigns for immigrant families from strategy to execution; (3) plan funding opportunities and partnerships for immigrant serving CBOs; and (4) provide a sounding board for the DOE’s language access practices.

We have a unique opportunity to continue building language access with community input beyond this year. The co-creative process of collecting best practices and building new multilingual communications infrastructure takes time, but it is resulting in a productive partnership that will allow this work to be more impactful long-term. In order to create lasting and sustainable impact on our communities and the children in our city’s schools, we will need this funding to become a consistent part of the budget that NYC immigrant communities and advocates can count on, plan for in advance, and have the time we need to do this powerful work in communities.

### **Collect and Publicly Report Immigrant Student Data**

Next100 urges the DOE to collect and publish data on immigrant children in order to further disaggregate, track outcomes, and more meaningfully identify and address the specific needs of these students. As the largest city in the country in which over [22 percent of its population is foreign-born](#), it is important that NYC lead on issues related to immigrant communities and families. This is an equity concern for NYC’s newly arrived immigrant students—one in which the United States’ largest public school system can set an example in ensuring immigrant children are able to learn and thrive in school.

Prohibitive enrollment practices in some New York State districts have [made it difficult for newly arrived immigrant children to enroll](#) in schools if they don’t provide the proper documents demonstrating proof of residency. Many immigrant and refugee children speak languages other than English, including Indigenous languages and other languages of low incidence, and schools struggle to provide adequate translation and interpretation resources to support them and their families, despite their [right to language access](#). Some have gaps in their education, and others may come in with pertinent social-emotional needs due to traumatic experiences or increased family responsibilities in a new country. Further, many school leaders fail to recognize the countless unique strengths immigrant children and families offer to the school community, often making them feel unwelcome and unimportant. Each of these factors contributes to significant enrollment and attendance barriers for immigrant students that impede access to school, negatively impact academic outcomes (including English language acquisition), and undermine newcomer student’s right to an





education. These realities underscore the need to ensure that immigrant students in NYC have fair and equitable access to educational opportunities in DOE schools.

However, ensuring equitable opportunities for newcomer students is extremely challenging without the data to identify and understand their needs. Over the years, advocates have encouraged LEAs and SEAs to collect data on specific subgroups of ELLs, which have been used as a proxy for tracking data on immigrant students, despite [many ELLs being born in the United States](#). In 2019, nearly [54 percent](#) of NYC's ELLs were born outside the United States. However, the academic outcomes, attendance, and discipline data for immigrant students remain unknown because their data is aggregated and reported along with data for *all* ELLs. To distinguish between U.S.-born ELLs and immigrant newcomers, we urge the DOE to use the definition offered in [Title III of ESSA](#), which defines "immigrant child or youth" in Section 3201(5) as "an individual who is aged three through 21; was not born in any state; and has not been attending one or more schools in any one or more states for more than three full academic years."<sup>4</sup>

At Next100, we believe it is critical to understand the unique experiences that immigrant students have in K-12 classrooms and are not fully captured by ELL status data collection. In order to expand access to the academic, social, and emotional supports immigrant students need to thrive in NYC schools, we must ensure we have data that pinpoints *all* of the experiences of immigrant newcomer students in our education system. That is why we call on the New York City Council to provide for the collection and reporting of enrollment, attendance, outcome data (graduation rates, state assessments), and discipline data for immigrant students. We also request that this data be made publicly available on an annual basis, on a schedule that aligns with the regular data releases for students in the city.

## Conclusion

Surely you will hear from many advocates, parents, educators, and students alike about the impacts of the COVID-19 pandemic on NYC's ELLs and immigrant students. As you consider where to prioritize your attention, we urge you to remember that without programs that specifically target the unique needs of immigrant students, they will continue to be left behind; without adequate and linguistically-appropriate communications made in partnership *with* CBOs and parent leaders that inform our communities about those programs and services, immigrant communities will continue to be left behind; and without the appropriate data to

---

<sup>4</sup> Note: The term "immigrant" as used in Title III is not related to an individual's legal status in the United States, as schools are prohibited from inquiring about that information from students and families as established by [Plyler v. Doe](#).



identify the inequities in opportunity that immigrant students face, immigrant students will continue to be left behind.

An investment in the **First Step Campaign** pilot, the continuation of **Language Access For All**, and the **collection and public reporting of immigrant student data** will help to ensure that NYC schools move forward *with* multilingual immigrant communities as we continue to recover from this pandemic.

Thank you for the opportunity to testify.

Submitted by:

Alejandra Vázquez Baur

Policy Entrepreneur, Next100

vazquezbaaur@thenext100.org



**Written testimony for New York City Council Oversight Hearing  
COVID Impact on ELL - February 28, 2022**

Thank you for the opportunity to submit this testimony on behalf of the many immigrant families and English Language Learners who participate in programs delivered by the [NYC Reads](#), a coalition of eleven organizations working together to ensure children attain and exceed reading proficiency. NYCReads, facilitated by Literacy Inc., provides a continuum of services for children and their families, in homes, schools, daycares, libraries, pediatric offices, and across the community in East New York, East Harlem, and South Jamaica. As part of Reads and as education justice advocates working in schools and neighborhoods with high populations of immigrants, we have witnessed, first-hand, the disproportional impact of COVID on ELLs.

It is important to acknowledge the diversity of ELLs' experiences and recognize that even before the pandemic, our ELL population was already facing educational, economic, and health disparities, compounded by other insecurities, hardships, and barriers that were only exacerbated by the pandemic. As the state and the city plan to address the broad range of needs of our ELLs, there is a unique opportunity to innovate, develop an approach that is comprehensive, and coordinate cross-sector partnerships so the solutions truly address the diversity of needs from multiple perspectives and the weight doesn't fall on one single institution or stakeholder.

Expecting our education or health institutions to address ALL the variety of ELLs needs is not realistic nor effective. Teachers and daycare providers are experiencing high rates of burnout and are leaving their jobs and the sector entirely. Health workers have also been affected by trauma. Simply put, workers that provide a support system for ELLs will also require a system of support.

But first, we must understand the immigrant experience and what our ELLs have been going through during the pandemic. ELLs faced a broad range of educational needs, resulting from a lack of wi-fi hotspots, computers, phone access, and overall limited resources at home. Our principals state that absenteeism, disengagement, and communication with immigrant families was consistently a challenge during remote learning. Immigrant children often shoulder sibling or family care, cooking, and other responsibilities to support the family. Additionally, given the isolation from school, there was complete isolation from acquiring language, ELLs were further prevented from advancing in the English language and therefore prevented from learning **all** other subjects<sup>1</sup>. Nationally, the trends experienced by ELLs in K-12 schools include an increase in social-emotional distress and bullying of immigrant students, a decrease in motivation and engagement, a growing sense of distrust and isolation among students a changing constellation of factors impacting immigrant families' levels of stability.<sup>2</sup>

---

<sup>1</sup>The exception are lower grade students who receive ELL services at the early stages of their formal education. Per 2019 NYS ELA test scores, students who were former ELLs by 3rd grade achieved a 73% proficiency score on this exam.

<sup>2</sup> [https://www.colorincolorado.org/sites/default/files/Immigration-Guide-FINAL\\_4-26-19.pdf](https://www.colorincolorado.org/sites/default/files/Immigration-Guide-FINAL_4-26-19.pdf)

Our immigrant families also faced food insecurity, limited resources at home, and overcrowded living spaces, and most experienced the trauma of death, job loss, and a political environment that further heightened their feelings of toxic stress and safety. Some immigrant families were frontline workers and vulnerable to COVID-19, yet mostly shut out of U.S. Relief<sup>3</sup>. More than 4,000 children in New York State have had a parent or caregiver die because of COVID; 57% of these children live in New York City.<sup>4</sup> Asian American EL students faced bullying and discrimination due to xenophobic responses to the pandemic.<sup>5</sup> These challenges and many more not stated here have resulted in the disproportionate physical and mental health needs of our ELLs that when combined with the educational achievement gaps bolstered by COVID 19, create more complex barriers for this population.

Rebuilding to create equity and resilience in NYC will require accelerating the funding of community-based approaches and relying heavily on partnerships and coordinated cross-sector efforts. Community-based models and coalitions like the NYCReads strengthen school-home-community bonds that are sustainable and provide access to a scaffolding of support and direct services for immigrant families and children that are often beyond their missions. These models can also provide the social capital that connects immigrants to each other and to additional services across the community, often in sustainable ways that empower parents and local leaders to play an active role in helping to provide solutions. Through these models, we can support schools and families and mobilize additional resources and safety nets -- legal, financial, translation, adult education, including technology, workforce training, childcare, mental and health services, among others.

NYCReads is an evidence-based model that mobilizes resources of 11 partners to support families and schools holistically addressing the literacy needs of children, from birth to the 5th grade, so that they can reach reading proficiency: Queens, Brooklyn, and New York Public Libraries ensure immigrant families and ELLs receive consistent year-round wrap around services inside and outside school, extending services for the entire family, Read Alliance and Reading Partners implement one-on-one tutoring and extra hours of literacy support to children, City Year increases school capacity, Springboard provides summer programming, Parent Child+ provides families critical early learning services and coaching inside the home, Literacy Inc. empowers parents to become literacy advocates and mobilizes the community to equip children with the foundational literacy skills essential for academic achievement, Jumpstart trains college students and community volunteers to prepare children to enter kindergarten ready to succeed, Reach Out and Read integrates reading into pediatric practices, advising families about the importance of reading. Together, NYC Reads provides ELLs increased access and opportunities that strengthen school-home-community bonds throughout the year, family/parent engagement, books, culturally-responsive educational resources, enrichment activities, culturally-responsive curriculum, native language and linguistic support for children and families.

**Covid Response and Rebuilding:** Every NYCReads partner continued supporting children and families during the COVID pandemic. Many introduced new services and adapted their programs, some within a matter of weeks of the stay-at-home orders issued in March 2020. Partners implemented a number of pop-up and push-through actions that enabled the initiative to continue impressive levels of engagement. Some examples include:

---

<sup>3</sup> <https://www.migrationpolicy.org/article/covid19-immigrants-shut-out-federal-relief>

<sup>4</sup> <https://uhfnyc.org/news/article/uhf-report-4200-children-nys--lost-parent-covid-19/>

<sup>5</sup>

<https://www.chalkbeat.org/2020/3/12/21178748/amid-the-coronavirus-outbreak-asian-american-students-like-my-son-face-racist-taunting-let-s-change>

- Queens Public Library negotiated a book discount from Scholastic and worked with LINC and principals to mail free books to families' homes.
- Reading Partners offered its students access to Reading IQ, an app that provides a digital library of high quality texts and covered the \$25 fee for all Reads Initiative students.
- Springboard Collaborative adapted its summer program including revising program assessments to support positive literacy behaviors in a remote environment.
- ParentChild+ redirected funds to meet the immediate material needs of families providing gift cards to pay for shelter, food, and other necessities.
- In just three months, multiple partners delivered 754 multilingual read alouds, 581 parent workshops and mailed or hand delivered 2,509 books and educational toys.

Rapid responses like these from NYC Reads partners will pave the way forward to allow a more equitable rebuilding. Let's start with the summer of 2022 dedicated to making reading a beloved activity by teens, tweens, all the way down to tots and toddlers. ELL students were already at heightened risk for "Summer Slide." Let's create the programming that will return summer slide to where it belongs - on the playground. Now is the time for the City Council to assert and affirm a commitment to NYC ELLs by investing in the widespread literacy programming that will ensure they emerge from COVID with the skills they need and the interest to enjoy reading. We have the resources in every community, but we need Council support to mobilize them in pursuit of a unified goal of literacy. After all, literacy is an inoculation against poverty.

<https://nycreads.org> | [egodoy@lincnyc.org](mailto:egodoy@lincnyc.org) | 646-240-5986



---

**From:** Remote Learning <remoteteachingnycn0w@gmail.com>  
**Sent:** Thursday, February 17, 2022 7:17 AM  
**To:** cec1@schools.nyc.gov; cec2@schools.nyc.gov; cec3@schools.nyc.gov; cec4@schools.nyc.gov; cec5@schools.nyc.gov; cec6@schools.nyc.gov; cec7@schools.nyc.gov; cec8@schools.nyc.gov; cec9@schools.nyc.gov; cec10@schools.nyc.gov; cec11@schools.nyc.gov; cec12@schools.nyc.gov; cec13@schools.nyc.gov; cec14@schools.nyc.gov; cec15@schools.nyc.gov; cec16@schools.nyc.gov; cec17@schools.nyc.gov; cec18@schools.nyc.gov; cec19@schools.nyc.gov; cec20@schools.nyc.gov; cec21@schools.nyc.gov; cec22@schools.nyc.gov; cec23@schools.nyc.gov; cec24@schools.nyc.gov; cec25@schools.nyc.gov; cec26@schools.nyc.gov; cec27@schools.nyc.gov; cec28@schools.nyc.gov; cec29@schools.nyc.gov; cec30@schools.nyc.gov; cec31@schools.nyc.gov; cec32@schools.nyc.gov; ccse@schools.nyc.gov; ccell@schools.nyc.gov; cchs@schools.nyc.gov; D75Council@schools.nyc.gov; officeofthefirstdeputychancellor@schools.nyc.gov; face@schools.nyc.gov; TLisant@schools.nyc.gov; ETobia@schools.nyc.gov; KWatts@schools.nyc.gov; BFreeman6@schools.nyc.gov; DRux@schools.nyc.gov; MSarduy@schools.nyc.gov; MDegovi@schools.nyc.gov; lockbox@washpost.com; tips@nytimes.com; Testimony; ocr@ed.gov; press@uft.org; sroberson@uft.org; rmantell@uft.org; jhinds@uft.org; agoldman@uft.org; mvaccaro@uft.org; kalford@uft.org; mginese@uft.org; tbrown@uft.org; lbarr@uft.org; dpenny@uft.org; msill@uft.org; mmulgrew@uft.org; nytletters@uft.org; nytmail@uft.org; tips@theintercept.com; Treyger, Mark; Chin; District2; Speaker Corey Johnson; Office of Council Member Powers; BKallos@benkallos.com; Helen@helenrosenthal.com; District7; Ayala, Diana; D09Perkins; Rodriguez, Ydanis; Dinowitz; District12; Gjonaj, Mark; Cabrera, Fernando; District15; District16Bronx; Salamanca; Diaz, Ruben; District19; Koo, Peter; Moya, Francisco; District22; Grodenchik, Barry S.; District24; Dromm, CM; Van Bramer, Jimmy; Adams; Koslowitz, CM; District30; District31; Ulrich, Eric; Levin, Stephen; Reynoso, Antonio; Cumbo, Laurie; District36; District37; info38; Council Member Lander; Eugene, Mathieu; District41; Verdree, Vinson; AskJB; AskKalman; District45; Maisel, Alan; District48; Rose, Deborah; Matteo, Steven; Joseph Borelli; parent-power-2021@googlegroups.com; wnbc.viewermail@nbcuni.com; BrainandLife@wolterskluwer.com; info@brainandlife.org; scacustserv@cdsfulfillment.com; editors@sciam.com; letters@newscientist.com; lastword@newscientist.com; newseditors@newscientist.com; rtessman@aan.com; mrosko@aan.com; gazette@harvard.edu; viewer@pbs.org; pressroom@natgeo.com; acheng3@schools.nyc.gov; RZweig@schools.nyc.gov; protond@schools.nyc.gov; ecastro16@schools.nyc.gov; soliger@schools.nyc.gov; dgraham14@schools.nyc.gov; mpritchard2@schools.nyc.gov; mpica@schools.nyc.gov; MBatista19@schools.nyc.gov; RCintro@schools.nyc.gov; jrose@schools.nyc.gov; scook6@schools.nyc.gov; iroman5@schools.nyc.gov; amendez14@schools.nyc.gov; rpeart@schools.nyc.gov; feliciano10@schools.nyc.gov; RAlvare4@schools.nyc.gov; tcoleman13@schools.nyc.gov; mduran13@schools.nyc.gov; JJoynt@schools.nyc.gov; SHernandez42@schools.nyc.gov; HSherma@schools.nyc.gov; BOrtiz35@schools.nyc.gov; yeleuti@schools.nyc.gov; MHulla@schools.nyc.gov; mcorrea@schools.nyc.gov; CVaughan2@schools.nyc.gov; ycrespo@schools.nyc.gov; LCaine2@schools.nyc.gov; JRosado3@schools.nyc.gov; SAllen17@schools.nyc.gov; emartinez45@schools.nyc.gov; JRoss11@schools.nyc.gov; ghagin@schools.nyc.gov; cmattis@schools.nyc.gov; mprayor@schools.nyc.gov; mmoses4@schools.nyc.gov; mthomas57@schools.nyc.gov; KSamuels@schools.nyc.gov; layers2@schools.nyc.gov; ABaez17@schools.nyc.gov; NDixon3@schools.nyc.gov; lruizferreira@schools.nyc.gov; ASkop@schools.nyc.gov; CFarrell8@schools.nyc.gov;

**To:** bdiaz14@schools.nyc.gov; YMartin3@schools.nyc.gov; cbrogdon-cruz@schools.nyc.gov; irivas2@schools.nyc.gov; SLindsa@schools.nyc.gov; plewis22@schools.nyc.gov; msargeat@schools.nyc.gov; CDougl22@schools.nyc.gov; salexandre2@schools.nyc.gov; rcarter4@schools.nyc.gov; TCollins@schools.nyc.gov; vedwards3@schools.nyc.gov; dpretto@schools.nyc.gov; WChin1@schools.nyc.gov; Sjasinski@schools.nyc.gov; lDimola@schools.nyc.gov; gpezzolanti@schools.nyc.gov; MDorney2@schools.nyc.gov; JBove@schools.nyc.gov; hfiorica@schools.nyc.gov; ldalton@schools.nyc.gov; MPate@schools.nyc.gov; pbesthardy@schools.nyc.gov; wrochford@schools.nyc.gov; RLozada@schools.nyc.gov; anievesgarcia@schools.nyc.gov; SWalch@schools.nyc.gov; KLouiss@schools.nyc.gov; Rvelez6@schools.nyc.gov; JOrtega7@schools.nyc.gov; FWalsh@schools.nyc.gov; PChea@schools.nyc.gov; SPineda7@schools.nyc.gov; VOrlen@schools.nyc.gov; erivera2@schools.nyc.gov; CChan2@schools.nyc.gov; kmcguire@schools.nyc.gov; jgreenblatt@schools.nyc.gov; TSibulkinyacker@schools.nyc.gov; cloughl@schools.nyc.gov; tmccaire@schools.nyc.gov; sozman@schools.nyc.gov; KDelaCr@schools.nyc.gov; npereira@schools.nyc.gov; LPatino3@schools.nyc.gov; RDavson@schools.nyc.gov; eclayton@schools.nyc.gov; ctenorio@schools.nyc.gov; MRamire4@schools.nyc.gov; ralicea@schools.nyc.gov; chernandez41@schools.nyc.gov; ELindse@schools.nyc.gov; dswift@schools.nyc.gov; eduarte@schools.nyc.gov; CSchneider2@schools.nyc.gov; SGales@schools.nyc.gov; eruiz16@schools.nyc.gov; MChan2@schools.nyc.gov; emcnamee@schools.nyc.gov; ssantacruz@schools.nyc.gov; DDiMang@schools.nyc.gov; emaluto@schools.nyc.gov; jyin4@schools.nyc.gov; DGiunta4@schools.nyc.gov; KDangelo4@schools.nyc.gov; WMo@schools.nyc.gov; JAmbert@schools.nyc.gov; TCantante@schools.nyc.gov; TPate@schools.nyc.gov; srueda@schools.nyc.gov; rfonton@schools.nyc.gov; BMitche2@schools.nyc.gov; JPressey@schools.nyc.gov; khardy3@schools.nyc.gov; PCompos@schools.nyc.gov; bsharma@schools.nyc.gov; marcos2@schools.nyc.gov; MWilson11@schools.nyc.gov; JRivera182@schools.nyc.gov

**Subject:** [EXTERNAL] Quasi Species COVID-19 Super variant factory each and every person

**Attachments:** Evolution of viral quasispecies during SARS-CoV-2 infection.pdf

"We identified 233 variants; each sample harboured in median 38 different minority variants, and only four were shared by different samples. The frequency of mutation was similar between genes and correlated with the length of the gene ( $r = 0.93$ ,  $p = 0.0002$ ). Most of mutations were substitution variations ( $n = 217$ , 93.1%) and about 50% had moderate or high impact on gene expression. Viral variants also differed between lower and upper respiratory tract samples collected on the same day, suggesting independent sites of replication of SARS-CoV-2. Conclusions: We report for the first time minority viral populations representing up to 1% during the course of SARS-CoV-2 infection. **Quasispecies were different from one day to the next, as well as between anatomical sites, suggesting that in vivo this new coronavirus appears as a complex and dynamic distributions of variants.** Aude Jary, Clin Microbiol Infect 2020;26:1560.e1e1560.e4"



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.





## Research note

## Evolution of viral quasispecies during SARS-CoV-2 infection

Aude Jary<sup>1,\*</sup>, Valentin Leducq<sup>1</sup>, Isabelle Malet<sup>1</sup>, Stéphane Marot<sup>1</sup>, Elise Klement-Frutos<sup>2</sup>, Elisa Teyssou<sup>1</sup>, Cathia Soulié<sup>1</sup>, Basma Abdi<sup>1</sup>, Marc Wirden<sup>1</sup>, Valérie Pourcher<sup>2</sup>, Eric Caumes<sup>2</sup>, Vincent Calvez<sup>1</sup>, Sonia Burrel<sup>1</sup>, Anne-Geneviève Marcelin<sup>1</sup>, David Boutolleau<sup>1</sup>

<sup>1</sup> Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (iPLESP), AP-HP, Hôpital Pitié Salpêtrière, Service de Virologie, Paris, France

<sup>2</sup> Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (iPLESP), AP-HP, Hôpital Pitié Salpêtrière, Service de Maladie Infectieuses et Tropicales, Paris, France

## ARTICLE INFO

## Article history:

Received 8 June 2020

Received in revised form

9 July 2020

Accepted 21 July 2020

Available online 24 July 2020

Editor: L. Kaiser

## Keywords:

Infection follow-up

Minority variants

NGS

Quasispecies

SARS-CoV-2

## ABSTRACT

**Objectives:** Studies are needed to better understand the genomic evolution of the recently emerged severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This study aimed to describe genomic diversity of SARS-CoV-2 by next-generation sequencing (NGS) in a patient with longitudinal follow-up for SARS-CoV-2 infection.

**Methods:** Sequential samples collected between January 29th and February 4th, 2020, from a patient infected by SARS-CoV-2 were used to perform amplification of two genome fragments—including genes encoding spike, envelope, membrane and nucleocapsid proteins—and NGS was carried out with Illumina® technology. Phylogenetic analysis was performed with PhyML and viral variant identification with VarScan.

**Results:** Majority consensus sequences were identical in most of the samples (5/7) and differed in one synonymous mutation from the Wuhan reference sequence. We identified 233 variants; each sample harboured in median 38 different minority variants, and only four were shared by different samples. The frequency of mutation was similar between genes and correlated with the length of the gene ( $r = 0.93$ ,  $p = 0.0002$ ). Most of mutations were substitution variations ( $n = 217$ , 93.1%) and about 50% had moderate or high impact on gene expression. Viral variants also differed between lower and upper respiratory tract samples collected on the same day, suggesting independent sites of replication of SARS-CoV-2.

**Conclusions:** We report for the first time minority viral populations representing up to 1% during the course of SARS-CoV-2 infection. Quasispecies were different from one day to the next, as well as between anatomical sites, suggesting that *in vivo* this new coronavirus appears as a complex and dynamic distributions of variants. **Aude Jary, Clin Microbiol Infect 2020;26:1560.e1–1560.e4**

© 2020 European Society of Clinical Microbiology and Infectious Diseases. Published by Elsevier Ltd. All rights reserved.

## Introduction

The genome organization in severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is similar to that in the other beta-coronaviruses, with the open reading frame (ORF) 1a/b encoding non-structural proteins at the 5'-end, and structural proteins as follows: spike (S)—envelope (E)—membrane (M)—nucleocapsid

(NC)—3'-end [1]. Since the spike surface glycoprotein plays a major role in infection of the host cell, genomic variations may impact the interaction with the host receptor but also viral pathogenesis, transmissibility and infectivity [2].

As intra-host variants in a transversal study or from the same patient by nanopore sequencing have already been reported [3,4], this study aimed to describe genomic diversity of SARS-CoV-2 by

\* Corresponding author. Aude Jary, 47–83 Boulevard de l'Hôpital, 75013, Paris, France.  
E-mail address: [aude.jary@aphp.fr](mailto:aude.jary@aphp.fr) (A. Jary).

next-generation sequencing (NGS) in a patient with longitudinal follow-up for SARS-CoV-2 infection.

## Methods

The first patient diagnosed with SARS-CoV-2 infection in Pitié-Salpêtrière Hospital, Paris, France, was followed daily for SARS-CoV-2 by RT-PCR of respiratory samples; viral genome could be detected between January 29th and February 10th, 2020 [5]. This patient, hospitalized on day 2 of a mild form of coronavirus disease 2019 (Covid-19), did not receive any antiviral or immunomodulation treatment during the entire study period.

Two fragments of about 4000 nucleotides (nt) were amplified by nested PCR (Supplementary Material Table S1), and NGS was performed with paired-end reads (MiSeq v3, 2 x 300 bp) on the MiSeq Illumina® system. Reads were trimmed using Trimmomatic, then mapped on SARS-CoV-2 reference sequence (NC\_045512.2) with Geneious Prime software and finally assembled *de novo* with SPAdes 3.12.0 [6] to generate majority consensus sequences.

Multiple alignment was performed with Mafft7 [7] and phylogenetic analysis of S, E, M and NC genes with PhyML3.0 [8] and GTR substitution model with 1000 bootstraps resampling.

Intra-host variants were called using VarScan [9] with the following requirements: sequencing depth  $\geq 1000$ , minor allele frequency  $\geq 1\%$  and found at least 100 times. Intra-sample viral variants were studied by comparing each consensus sequence with

all cleaned reads generated from the same sample and viral variants during follow-up by comparing consensus sequence of the first nasopharyngeal sample (01292020\_NP) with all reads generated from the different samples. Synonymous mutations were identified as having a low impact, missense mutations and insertions with conservative inframe as having a moderate impact, and acquisition or loss of stop codon as well as frameshift as having a high impact on gene expression.

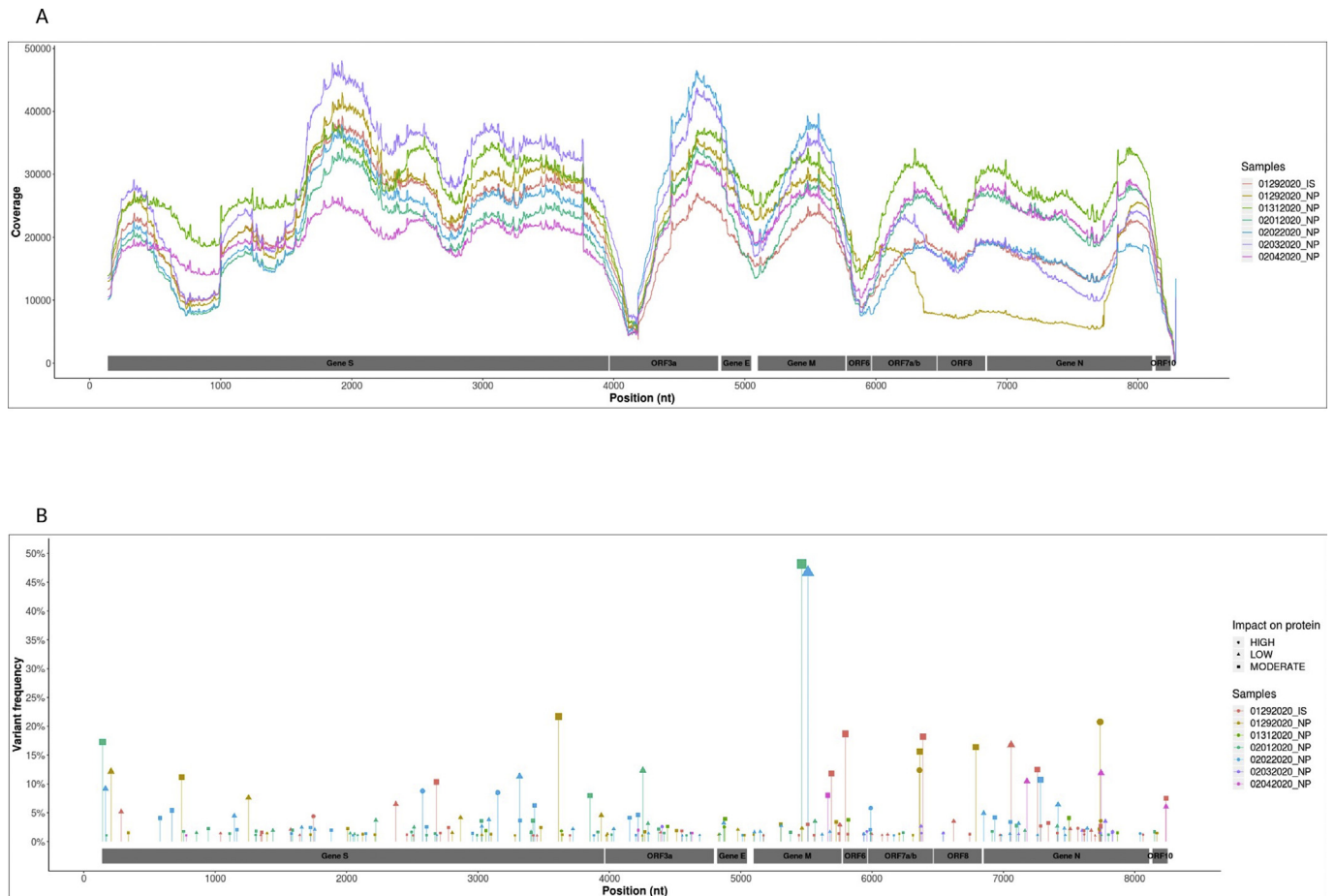
The Spearman rank correlation test was performed on GraphPad.

## Results

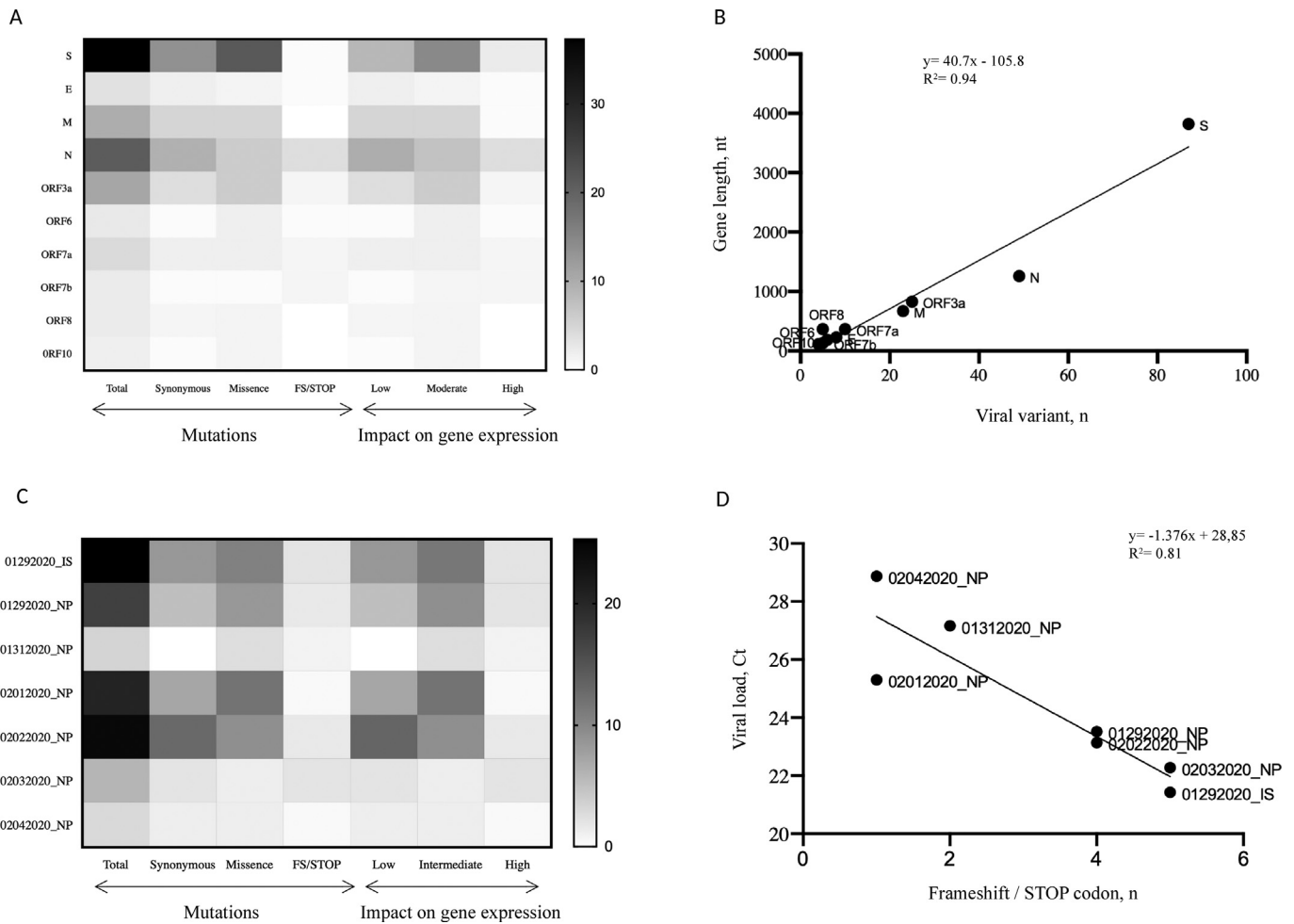
The sequencing was effective for the first seven samples (one induced sputum and six nasopharyngeal swabs) from January 29th to February 4th, 2020, with a Ct value of SARS-CoV-2 RT-PCR  $< 30$ . A full-length fragment of 8257 nt was generated with a median (IQR) of 45 523 (41 014–46 023) depth sequencing per sample (Supplementary Material Table S2).

### Phylogenetic analysis

Compared to the NC\_045512.2 reference sequence, our majority consensus sequences differed in the S gene by only four variations. They all harboured the synonymous mutation 3591T > C, whereas a non-synonymous mutation (859G > A) was found only in sample



**Fig. 1.** The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) genome diversity during infection. (A) Genome coverage (y axis) according to nucleotide position (x axis). (B) Distribution (x axis) and frequency (y axis) of the 233 intra-sample viral variants identified. Each sample is represented by the same colour in (A) and (B), and the impact of mutations on gene expression is represented by a different symbol (low: a rhombus, moderate: a square, high: a circle).



**Fig. 2.** Distribution of mutation frequency and correlation with gene length or viral load. (A) HeatMap representing the frequency and distribution of the mutations and their impact on gene expression between the different genes. (B) Linear regression line between the number of viral variant (x axis) and the gene length (y axis). (C) HeatMap representing the frequency and distribution of the mutations and their impact on gene expression between the different samples. (D) Linear regression line between the number of frameshift and stop codons (x axis) and the viral load expressed in cycle threshold (Ct) value (y axis). Viral variants by gene: S,  $n = 87$ ; N,  $n = 49$ ; ORF3a,  $n = 25$ ; M,  $n = 23$ ; ORF7a,  $n = 10$ ; E,  $n = 8$ ; ORF6,  $n = 6$ ; ORF7b,  $n = 5$ ; ORF8,  $n = 5$ ; ORF10,  $n = 4$ . Scale on the right of (A) and (C) represents the frequency in percentages, with the largest value in dark and the lowest value in light.

02012020\_NP. In sample 01312020\_NP, a deletion of one nucleotide led to the appearance of a premature stop codon and a non-synonymous substitution at position 3554.

By phylogenetic analysis of the four structural genes, our sequences clustered with all the SARS-CoV-2 reference sequences issued from the NCBI database, and were distinct from the other human coronaviruses (Supplementary Material Fig. S1).

#### Intra-sample viral variant diversity

We identified 233 viral variants, and the number of variants per sample was not correlated with the depth sequencing ( $r = 0.23$ ,  $p = 0.28$ ).

Each sample harboured in median 38 (11–51.5) minority variants (<20%). Only 4/233 identical minority variants were common between two specimens, and 6/233 other mutations were identified at the same position in two samples but induced different variants (Supplementary Material Table S3). Although majority consensus sequences of the two specimens collected on January 29th were strictly identical, each one harboured their specific viral population with 59 variants identified in the induced sputum and 40 in the nasopharyngeal specimens (Fig. 1).

Nucleotide variations occurred in decreasing order in the S gene, N gene, ORF3a, M gene, ORF7a, E gene, ORF6, ORF7b and ORF8, and finally ORF10 (Fig. 2A). However, according to gene length, the frequency of mutation was similar and correlated with the length of the gene ( $r = 0.93$ ,  $p = 0.0002$ ) (Fig. 2B).

Most of the mutations were substitution variations (217/233), including 87/233 synonymous mutations and 107/233 missense mutations. According to gene expression, 88/233 variants had a low impact, 111/233 an intermediate impact, and 23/233 a high impact (Fig. 1). Between samples, only the frequencies of frameshift and stop codons were significantly and strongly correlated with the viral load ( $r = 0.92$ ,  $p = 0.0095$ ) (Fig. 2D).

#### Follow-up of viral variant diversity

By comparing with the consensus sequence collected on January 29th from the nasopharyngeal site, we found the same viral quasi-species in each sample as reported above. However, three majority variants emerged in the S gene obtained from the nasopharyngeal samples collected on January 31st and February 1st, corresponding to the three mutations described previously in the consensus sequences. None of them were found in the previous

and following samples as majority or minority variants (Supplementary Material Table S4).

## Discussion

The virus identified in this patient was almost identical to the reference sequence from Wuhan [1]. This result was expected, as the patient was a general practitioner presumably infected by tourists from Wuhan and their guide who was later diagnosed SARS-CoV-2-positive [5].

Quasispecies in RNA viruses have previously been reported for SARS-CoV and MERS-CoV [10,11], as well as within individuals during SARS-CoV-2 infection [3,12]. The present study, allowing the analysis of SARS-CoV-2 minority variants at 1%, supports the previous finding. Indeed, we found a median of 38 different viral variants per sample during the follow-up of a single patient, with almost no common variant from one day to the next. More than half of the variants had an intermediate or high impact on gene expression and may explain the lack of persistence over time. Among the different types of mutations, the number of mutations inducing frameshift and stop codons were highly correlated with the viral load, reflecting the loss of fitness in variants harbouring deleterious mutations during intensive viral replication [13]. Otherwise, the viral variant population was also different between samples from the lower (induced sputum) and upper (nasopharyngeal swab) respiratory tract collected on the same day, suggesting independent replication of SARS-CoV-2, as previously reported [14].

Contrary to a previous study which identified a hotspot in ORF8 [15], the mutations identified in this study appeared to be spread fairly evenly throughout the sequenced fragment. Indeed, a limited number of viral variants was shared by two samples, the remainder (97%) being specific to each sample and occurring in different genomic sites, and a strong correlation was found between the number of variants and the length of each gene.

The main limitation of this study is that a fragment of only about 8000 nt was studied, in only one patient, and during a short period of follow-up because of low viral load in samples collected after February 5th. However, our results highlighted that during the first week of infection the major viral population remained identical (5/7), with several specific minority variants which did not seem to persist over time. Larger studies are needed to explore the entire intra-patient variability during the course of the infection, and in different clinical situations, to better understand the impact of the minority viral population on SARS-CoV-2 evolution, physiopathology and transmission.

## Author contributions

DB, AGM, SB, VC planned the research; EKF, VP and EC collected the clinical data; VL, IM, ET and CS performed the experiments; AJ, VL, BA and MW analysed the data; AJ, SM, SB and DB wrote the paper. All the authors read and corrected the manuscript and approved the final version.

## Transparency declaration

All the authors declare no competing interests. This study was funded by the Agence Nationale de Recherche sur le SIDA et les Hépatites Virales (ANRS, AC43), the Agence National de la Recherche (ANR) and Sorbonne Université.

## Ethics

The study was carried out in accordance with the Declaration of Helsinki. It was a retrospective non-interventional study with no addition to standard care procedures. Reclassification of biological remnants into research material after completion of the ordered virological tests was approved by the local interventional review board of Pitié-Salpêtrière Hospital. According to the French Public Health Code (CSP Article L.1121-1.1) such protocols are exempted from individual informed consent.

## Acknowledgements

We thank the SMIT PSL COVID cohort Team for its support.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.cmi.2020.07.032>.

## References

- Chan JF-W, Kok K-H, Zhu Z, Chu H, To KK-W, Yuan S, et al. Genomic characterization of the 2019 novel human-pathogenic coronavirus isolated from a patient with atypical pneumonia after visiting Wuhan. *Emerg Microbe Infect* 2020;9:221–36. <https://doi.org/10.1080/22221751.2020.1719902>.
- Fung TS, Liu DX. Human coronavirus: host–pathogen interaction. *Annu Rev Microbiol* 2019;73:529–57. <https://doi.org/10.1146/annurev-micro-020518-115759>.
- Shen Z, Xiao Y, Kang L, Ma W, Shi L, Zhang L, et al. Genomic diversity of SARS-CoV-2 in coronavirus disease 2019 patients. *Clin Infect Dis* 2020. <https://doi.org/10.1093/cid/ciaa203>.
- To KK-W, Tsang OT-Y, Leung W-S, Tam AR, Wu T-C, Lung DC, et al. Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2: an observational cohort study. *Lancet Infect Dis* 2020;20:565–74. [https://doi.org/10.1016/S1473-3099\(20\)30196-1](https://doi.org/10.1016/S1473-3099(20)30196-1).
- Klement E, Godefroy N, Burrell S, Kornblum D, Monsel G, Bleibtreu A, et al. The first locally acquired novel case of 2019-nCoV infection in a healthcare worker in the Paris area. *Clin Infect Dis* 2020. <https://doi.org/10.1093/cid/ciaa171>.
- Bankovich A, Nurk S, Antipov D, Gurevich AA, Dvorkin M, Kulikov AS, et al. SPAdes: a new genome assembly algorithm and its applications to single-cell sequencing. *J Comput Biol* 2012;19:455–77. <https://doi.org/10.1089/cmb.2012.0021>.
- Katoh K, Standley DM. MAFFT multiple sequence alignment software version 7: improvements in performance and usability. *Mol Biol Evol* 2013;30:772–80. <https://doi.org/10.1093/molbev/mst010>.
- Guindon S, Dufayard J-F, Lefort V, Anisimova M, Hordijk W, Gascuel O. New algorithms and methods to estimate maximum-likelihood phylogenies: assessing the performance of PhyML 3.0. *Syst Biol* 2010;59:307–21. <https://doi.org/10.1093/sysbio/syq010>.
- Koboldt DC, Zhang Q, Larson DE, Shen D, McLellan MD, Lin L, et al. VarScan 2: somatic mutation and copy number alteration discovery in cancer by exome sequencing. *Genome Res* 2012;22:568–76. <https://doi.org/10.1101/gr.129684.111>.
- Xu D, Zhang Z, Wang F-S. SARS-associated coronavirus quasispecies in individual patients. *N Engl J Med* 2004;350:1366–7. <https://doi.org/10.1056/NEJMc032421>.
- Park D, Huh HJ, Kim YJ, Son D-S, Jeon H-J, Im E-H, et al. Analysis of inpatient heterogeneity uncovers the microevolution of Middle East respiratory syndrome coronavirus. *Cold Spring Harb Mol Case Stud* 2016;2:a001214. <https://doi.org/10.1101/mcs.a001214>.
- Capobianchi MR, Rueca M, Messina F, Giombini E, Carletti F, Colavita F, et al. Molecular characterization of SARS-CoV-2 from the first case of COVID-19 in Italy. *Clin Microbiol Infect* 2020;26:954–6. <https://doi.org/10.1016/j.cmi.2020.03.025>.
- Domingo E, Holland JJ. RNA virus mutations and fitness for survival. *Annu Rev Microbiol* 1997;51:151–78. <https://doi.org/10.1146/annurev.micro.51.1.151>.
- Wölfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Müller MA, et al. Virological assessment of hospitalized patients with COVID-2019. *Nature* 2020. <https://doi.org/10.1038/s41586-020-2196-x>.
- Ceraolo C, Giorgi FM. Genomic variance of the 2019-nCoV coronavirus. *J Med Virol* 2020;92:522–8. <https://doi.org/10.1002/jmv.25700>.

---

**From:** Remote Learning <remotelearningnycn0w@gmail.com>  
**Sent:** Thursday, February 17, 2022 7:31 AM  
**To:** cec1@schools.nyc.gov; cec2@schools.nyc.gov; cec3@schools.nyc.gov; cec4@schools.nyc.gov; cec5@schools.nyc.gov; cec6@schools.nyc.gov; cec7@schools.nyc.gov; cec8@schools.nyc.gov; cec9@schools.nyc.gov; cec10@schools.nyc.gov; cec11@schools.nyc.gov; cec12@schools.nyc.gov; cec13@schools.nyc.gov; cec14@schools.nyc.gov; cec15@schools.nyc.gov; cec16@schools.nyc.gov; cec17@schools.nyc.gov; cec18@schools.nyc.gov; cec19@schools.nyc.gov; cec20@schools.nyc.gov; cec21@schools.nyc.gov; cec22@schools.nyc.gov; cec23@schools.nyc.gov; cec24@schools.nyc.gov; cec25@schools.nyc.gov; cec26@schools.nyc.gov; cec27@schools.nyc.gov; cec28@schools.nyc.gov; cec29@schools.nyc.gov; cec30@schools.nyc.gov; cec31@schools.nyc.gov; cec32@schools.nyc.gov; ccse@schools.nyc.gov; ccell@schools.nyc.gov; cchs@schools.nyc.gov; D75Council@schools.nyc.gov; officeofthefirstdeputychancellor@schools.nyc.gov; face@schools.nyc.gov; TLisant@schools.nyc.gov; ETobia@schools.nyc.gov; KWatts@schools.nyc.gov; BFreeman6@schools.nyc.gov; DRux@schools.nyc.gov; MSarduy@schools.nyc.gov; MDegovi@schools.nyc.gov; lockbox@washpost.com; tips@nytimes.com; Testimony; ocr@ed.gov; press@uft.org; sroberson@uft.org; rmantell@uft.org; jhinds@uft.org; agoldman@uft.org; mvaccaro@uft.org; kalford@uft.org; mginese@uft.org; tbrown@uft.org; lbarr@uft.org; dpenny@uft.org; msill@uft.org; mmulgrew@uft.org; nytletters@uft.org; nytmail@uft.org; tips@theintercept.com; Treyger, Mark; Chin; District2; Speaker Corey Johnson; Office of Council Member Powers; BKallos@benkallos.com; Helen@helenrosenthal.com; District7; Ayala, Diana; D09Perkins; Rodriguez, Ydanis; Dinowitz; District12; Gjonaj, Mark; Cabrera, Fernando; District15; District16Bronx; Salamanca; Diaz, Ruben; District19; Koo, Peter; Moya, Francisco; District22; Grodenchik, Barry S.; District24; Dromm, CM; Van Bramer, Jimmy; Adams; Koslowitz, CM; District30; District31; Ulrich, Eric; Levin, Stephen; Reynoso, Antonio; Cumbo, Laurie; District36; District37; info38; Council Member Lander; Eugene, Mathieu; District41; Verdree, Vinson; AskJB; AskKalman; District45; Maisel, Alan; District48; Rose, Deborah; Matteo, Steven; Joseph Borelli; parent-power-2021@googlegroups.com; wnbc.viewermail@nbcuni.com; BrainandLife@wolterskluwer.com; info@brainandlife.org; scacustserv@cdsfulfillment.com; editors@sciam.com; letters@newscientist.com; lastword@newscientist.com; newseditors@newscientist.com; rtessman@aan.com; mrosko@aan.com; gazette@harvard.edu; viewer@pbs.org; pressroom@natgeo.com; acheng3@schools.nyc.gov; RZweig@schools.nyc.gov; protond@schools.nyc.gov; ecastro16@schools.nyc.gov; soliger@schools.nyc.gov; dgraham14@schools.nyc.gov; mpritchard2@schools.nyc.gov; mpica@schools.nyc.gov; MBatista19@schools.nyc.gov; RCintro@schools.nyc.gov; jrose@schools.nyc.gov; scook6@schools.nyc.gov; iroman5@schools.nyc.gov; amendez14@schools.nyc.gov; rpeart@schools.nyc.gov; feliciano10@schools.nyc.gov; RAlvare4@schools.nyc.gov; tcoleman13@schools.nyc.gov; mduran13@schools.nyc.gov; JJoynt@schools.nyc.gov; SHernandez42@schools.nyc.gov; HSherma@schools.nyc.gov; BOrtiz35@schools.nyc.gov; yeleuti@schools.nyc.gov; MHulla@schools.nyc.gov; mcorrea@schools.nyc.gov; CVaughan2@schools.nyc.gov; ycespo@schools.nyc.gov; LCaine2@schools.nyc.gov; JRosado3@schools.nyc.gov; SAllen17@schools.nyc.gov; emartinez45@schools.nyc.gov; JRoss11@schools.nyc.gov; ghagin@schools.nyc.gov; cmattis@schools.nyc.gov; mprayor@schools.nyc.gov; mmoses4@schools.nyc.gov; mthomas57@schools.nyc.gov; KSamuels@schools.nyc.gov; layers2@schools.nyc.gov; ABaez17@schools.nyc.gov; NDixon3@schools.nyc.gov; lruizferreira@schools.nyc.gov; ASkop@schools.nyc.gov; CFarrell8@schools.nyc.gov;

**To:** bdiaz14@schools.nyc.gov; YMartin3@schools.nyc.gov; cbrogdon-cruz@schools.nyc.gov; irivas2@schools.nyc.gov; SLindsa@schools.nyc.gov; plewis22@schools.nyc.gov; msargeat@schools.nyc.gov; CDougla22@schools.nyc.gov; salexandre2@schools.nyc.gov; rcarter4@schools.nyc.gov; TCollins@schools.nyc.gov; vedwards3@schools.nyc.gov; dpretto@schools.nyc.gov; WChin1@schools.nyc.gov; Sjasinski@schools.nyc.gov; lDimola@schools.nyc.gov; gpezzolanti@schools.nyc.gov; MDorney2@schools.nyc.gov; JBove@schools.nyc.gov; hfiorica@schools.nyc.gov; ldalton@schools.nyc.gov; MPate@schools.nyc.gov; pbesthardy@schools.nyc.gov; wrochford@schools.nyc.gov; RLozada@schools.nyc.gov; anievesgarcia@schools.nyc.gov; SWalch@schools.nyc.gov; KLouiss@schools.nyc.gov; RVelez6@schools.nyc.gov; JOrtega7@schools.nyc.gov; FWalsh@schools.nyc.gov; PChea@schools.nyc.gov; SPineda7@schools.nyc.gov; VOrlen@schools.nyc.gov; erivera2@schools.nyc.gov; CChan2@schools.nyc.gov; kmcguire@schools.nyc.gov; jgreenblatt@schools.nyc.gov; TSibulkinyacker@schools.nyc.gov; cloughl@schools.nyc.gov; tmccaire@schools.nyc.gov; sozman@schools.nyc.gov; KDelaCr@schools.nyc.gov; npereira@schools.nyc.gov; LPatino3@schools.nyc.gov; RDavson@schools.nyc.gov; eclayton@schools.nyc.gov; ctenorio@schools.nyc.gov; MRamire4@schools.nyc.gov; ralicea@schools.nyc.gov; chernandez41@schools.nyc.gov; ELindse@schools.nyc.gov; dswift@schools.nyc.gov; eduarte@schools.nyc.gov; CSchneider2@schools.nyc.gov; SGales@schools.nyc.gov; eruiz16@schools.nyc.gov; MChan2@schools.nyc.gov; emcnamee@schools.nyc.gov; ssantacruz@schools.nyc.gov; DDiMang@schools.nyc.gov; emaluto@schools.nyc.gov; jyin4@schools.nyc.gov; DGiunta4@schools.nyc.gov; KDangelo4@schools.nyc.gov; WMo@schools.nyc.gov; JAmbert@schools.nyc.gov; TCantante@schools.nyc.gov; TPate@schools.nyc.gov; srueda@schools.nyc.gov; rfenton@schools.nyc.gov; BMitche2@schools.nyc.gov; JPressey@schools.nyc.gov; khardy3@schools.nyc.gov; PCompos@schools.nyc.gov; bsharma@schools.nyc.gov; marcos2@schools.nyc.gov; MWilson11@schools.nyc.gov; JRivera182@schools.nyc.gov

**Subject:** [EXTERNAL] Meningoencephalitis associated with COVID-19: a systematic review

"In this systematic review we observe that quite a few reports of meningoencephalitis associated with COVID19 are already available in recent literature even in the Table 8 (continued) Serial no Authors Treatment Drugs Dose Duration Immunomodulatory therapy: Beta-interferon, Baricitinib, IVIG, Anakinra NA NA 25 Andrea Pilotto et al. (2020) [The clinical spectrum of encephalitis in COVID-19 disease: the ENCOVID multicentre study] Hydroxychloroquine, Antiviral NA NA 26 Vartharaj et al. (2020) NA NA NA Journal of NeuroVirology (2021) 27:12–25 23 face of possible under-reporting in contrast to the earlier epidemics of MERS and SARS-CoV. Various clinical presentations have surfaced up among which confusion or disorientation is the most frequent. Among the laboratory parameters, raised CRP and D-dimer are most prominent findings. Analysis of CSF parameters reveals that high protein and lymphocytic pleocytosis are the most observable abnormalities. Focal epileptiform discharges and slowing of background are common EEG abnormalities observed in COVID-19-related meningoencephalitis. A myriad of radiological abnormalities have been observed of which temporal lobar hyper-intensity and diffusion restriction are common. This review has attempted to provide a basic outline of COVID-19-related meningoencephalitis from a clinician's perspective. Hopefully with increment in reporting of neurological manifestations of COVID-19, a clearer picture will become available towards the future."

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7765701/pdf/13365\\_2020\\_Article\\_923.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7765701/pdf/13365_2020_Article_923.pdf)



# Meningoencephalitis associated with COVID-19: a systematic review

Ritwick Mondal<sup>1</sup> · Upasana Ganguly<sup>1</sup> · Shramana Deb<sup>2</sup> · Gourav Shome<sup>3</sup> · Subhasish Pramanik<sup>1</sup> ·  
Deebya Bandyopadhyay<sup>1</sup> · Durjoy Lahiri<sup>1</sup>

Received: 14 August 2020 / Revised: 28 September 2020 / Accepted: 19 October 2020 / Published online: 26 December 2020  
© Journal of NeuroVirology, Inc. 2020

## Abstract

With the growing number of COVID-19 cases in recent times, a significant set of patients with extra-pulmonary symptoms has been reported worldwide. Here we venture out to summarize the clinical profile, investigations, and radiological findings among patients with SARS-CoV-2-associated meningoencephalitis in the form of a systematic review. This review was carried out based on the existing PRISMA (Preferred Report for Systematic Review and Meta-analyses) consensus statement. The data for this review was collected from four databases: Pubmed/Medline, NIH LitCovid, Embase, and Cochrane library and Preprint servers up till 30 June 2020. Search strategy comprised of a range of keywords from relevant medical subject headings which includes “SARS-CoV-2,” “COVID-19,” and “meningoencephalitis.” All peer-reviewed, case-control, case report, preprint articles satisfying our inclusion criteria were involved in the study. Quantitative data was expressed in mean  $\pm$  SD, while the qualitative data in percentages. Paired *t* test was used for analysing the data based on differences between mean and respective values with a *p* < 0.05 considered to be statistically significant. A total of 61 cases were included from 25 studies after screening from databases and preprint servers, out of which 54 of them had completed investigation profile and were included in the final analysis. Clinical, laboratory findings, neuroimaging abnormalities, and EEG findings were analyzed in detail. This present review summarizes the available evidences related to the occurrence of meningoencephalitis in COVID-19.

**Keywords** SARS-CoV-2 · COVID-19 · Coronavirus · Clinical symptoms · Neurological impairments · Meningoencephalitis

## Introduction

The world at present is in combat with COVID-19, appropriately termed by Bill Gates as a “Once-in-a-Century” Pandemic Gates (2020). The dual challenge posed by this pandemic, namely saving lives as well as preventing horizontal transmission, has stretched clinicians to the extreme. With the passage of time, the situation has become more complicated given the unusual clinical manifestation of this

viral infection. Several extra-pulmonary manifestations of COVID-19 have been brought to attention by treating physicians worldwide. Among these, neuro-invasive potential of SARS-CoV-2 has received significant attention. There is now sufficient body of evidence to support the idea that COVID-19 can have pure neurological presentations and on some occasions, preceding the typical respiratory manifestations (Zubair et al. 2019; Korálnik and Kenneth 2020; Lahiri et al. 2020a). Besides, a myriad of neurological consequences following typical clinical presentation of COVID-19 has also been documented across the globe. In sum, neuro-COVID as a distinct topic of discussion has been steadily gaining attention over the last couple of months.

Among the central nervous system (CNS) manifestations, impaired consciousness/encephalopathy is a widely reported symptom of COVID-19 Zubair et al. (2019); Encephalopathy and in patients with COVID-19: ‘Causality or coincidence’ Journal of Medical Virology 2020d and various possible aetiologies underlying

✉ Durjoy Lahiri  
dlahiri1988@gmail.com

<sup>1</sup> Bangur Institute of Neurosciences, Institute of Post Graduate Medical Education and Research, SSKM Hospital, Kolkata, India

<sup>2</sup> S.N. Pradhan Centre for Neuroscience, University of Calcutta, Kolkata, India

<sup>3</sup> Department of Microbiology, University of Calcutta, Kolkata, India

this symptom have been scrutinized in literature. It has been widely speculated that the virus gains access into the brain via olfactory bulb and the hypothesis gained substantial support from the observation that anosmia is a fairly consistent symptom of early COVID-19 (Zubair et al. 2019). An alternative proposed route for the virus to invade brain is hematogenous (Zubair et al. 2019). Given the potential of SARS-CoV-2 to invade CNS and also our previous experience with MERS and SARS-CoV, meningoencephalitis in COVID-19 is a duly anticipated clinical feature. Indeed, in the last couple of months, multiple reports of meningoencephalitis associated with COVID-19 have surfaced up. These cases not only have encompassed a wide range of clinical presentations but also have documented varied laboratory and imaging results. That said, it can be assumed that in current situation under-reporting of cases is a non-negligible issue, and therefore, these cases only represent tip of the iceberg. Nevertheless, an organized summary and critical review of these documents can reveal a wealth of information about the clinical, laboratory, and imaging features of meningoencephalitis in COVID-19.

In this background, we set out to develop a systematic review of meningoencephalitis cases in COVID-19 available in a wide array of databases. Our main objective is to summarize the clinical presentations, laboratory parameters including CSF abnormalities, and brain imaging features of SARS-CoV-2-associated meningoencephalitis. Such a documentation will not only work as a guide to clinicians dealing with COVID-19 patients but also will open up new avenues towards understanding the neuro-invasive potential and routes of this virus.

## Methodology

### Design

This systematic review was conducted by following the Preferred Reporting for Systematic Review and Meta-Analysis (PRISMA) consensus statement (CRD42020185571) (Lahiri et al. 2020b). Studies relevant to the confirmed cases of COVID-19 infection with confirmed or suspected association of meningoencephalitis were included.

### Search strategy

In this systemic review four databases, Pubmed/Medline, NIH LitCovid, Embase, and Cochrane Library, were searched using pre specified searching strategies and this search was concluded on 10 June 2020. The search strategy consists of variation of keywords of relevant medical subject headings (MeSH) and key words, including “SARS-CoV-2,”

“COVID-19,” “coronavirus,” “clinical symptoms,” “neurological impairments,” and “Meningoencephalitis.” Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) and Middle East Respiratory Syndrome Coronavirus (MERS-CoV) were also included in our search strategy to capture related articles. We also hand searched additional COVID-19 specific articles using the reference list of the selected studies, relevant journal websites, and renowned pre-print servers (medRxiv, bioRxiv, pre-prints.org) from 2019 to current date for literature inclusion. To decrease publication bias, we invigilated the references of all studies potentially missed in electrical search. Content experts also searched the grey literature of any relevant articles.

### Study selection criteria

All peer-reviewed, pre-print (not-peer-reviewed) including cohort, case–control studies and case reports which met the pre-specified inclusion and exclusion criteria were included in this study. The PRISMA flow chart for study selection for this current review has been depicted in Fig. 1.

### Inclusion criteria

Studies met the following inclusion criteria were included if (i) conducted for the patients infected with COVID-19 with or suspected meningoencephalitis; (ii) studies registering neurological manifestations of COVID-19 patients were included with encephalitis like symptoms; (iii) parallel studies to look into the detailed distribution and incidences of meningoencephalitis in previous outbreaks, i.e. SARS-CoV, MERS-CoV, and various other coronaviruses, were compared with current pandemic in the discussion section; and (iv) published in the English language. Studies without complete information but met our inclusion criteria were included in the narrative review.

### Exclusion criteria

Studies excluded if COVID-19 was not confirmed among patients and written in languages other than English. We also excluded review papers, viewpoints, commentaries, and studies where no information related to neurological symptoms or meningoencephalitis was reported.

### Data extraction

Prior to the screening process, team of three reviewers (GS, DB, and SD) participated in calibration and screening exercises. First two reviewers (GS and DB) subsequently screened independently the titles and abstracts of all identified citations, and the third reviewer (SD) verified



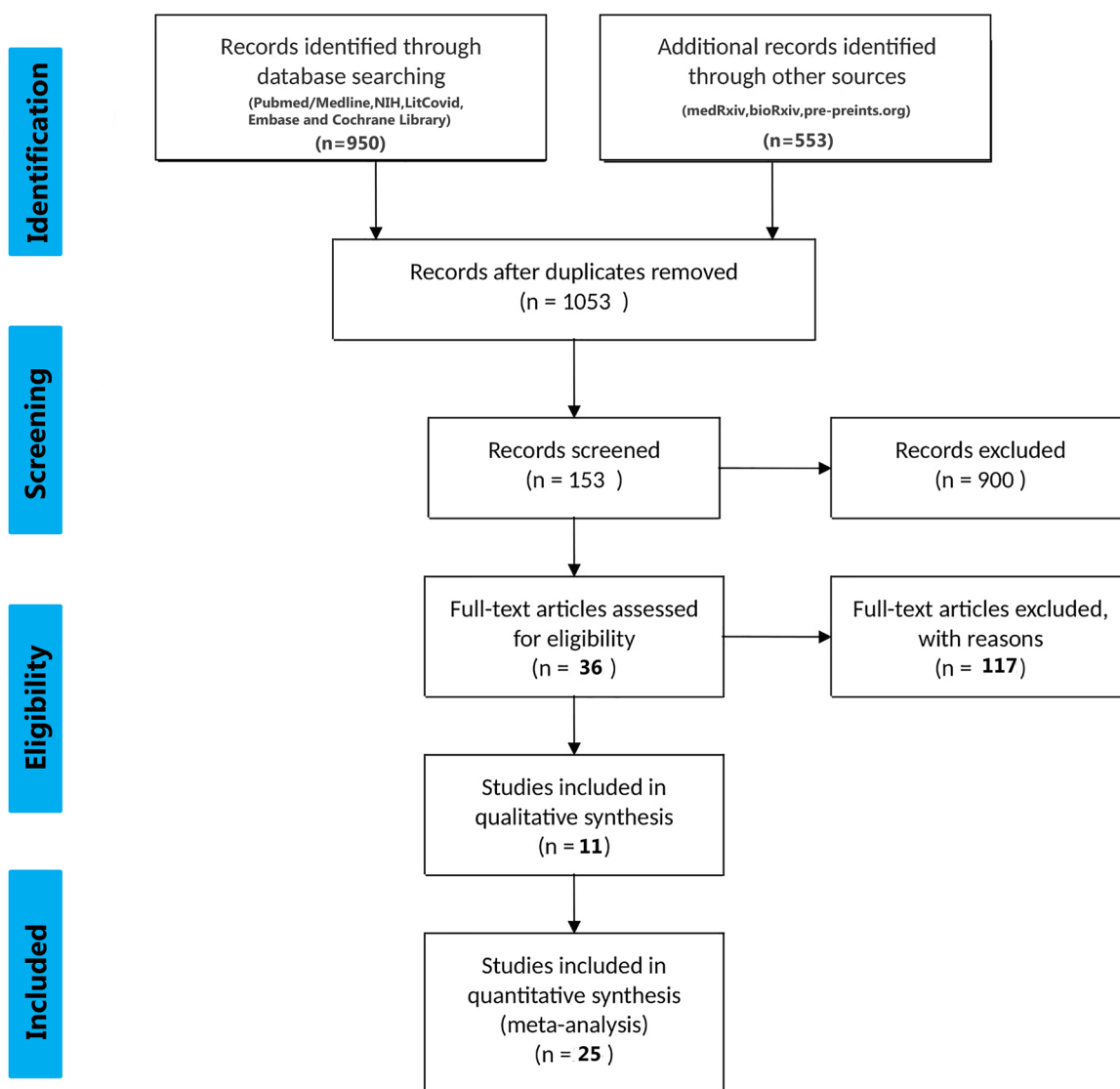


Fig. 1 The PRISMA flow chart for study selection

those citations and screened papers by (GS and DB). Other two reviewers (UG and SA) then retrieved and screened independently the full texts of all citations deemed eligible by the reviewer (SD) on the team and analysed those data. Another reviewer (RM) independently verified these extracted full texts for eligibility towards analysis and designed the overall study structure. The corresponding author (DL) had resolved disagreements whenever necessary and took final decisions regarding the study. Throughout the screening and data extraction process, the reviewers used piloted forms. In addition to the relevant clinical data, the reviewers also extracted data on the following characteristics: study characteristics (i.e. study identifier, study design, setting, timeframe), population characteristics,

comparator characteristics, outcomes (qualitative and/or quantitative), clinical factors (definition and measurement methods), reported funding sources and conflict of interests; and study limitations. The Newcastle–Ottawa scale was used to assess the selection procedure, the comparability, and the outcomes of each reviewed study.

### Statistical analysis

Quantitative data were presented using means  $\pm$  standard deviation (SDs). Qualitative data were presented as percentage value. Unit discordance among the variables was resolved by converting the variables to a standard unit of measurement. Further, one sample *t* test was performed

to find out significant difference between mean value and respective reference value (highest value of the reference range was taken) of each parameter. A value of “*p*” < 0.05 was considered as statistically significant. All statistical analyses were performed and analyzed using GraphPad prism (Version 6, San Diego, CA, USA). A meta analysis was planned to analyze the association of the demographic findings, co-morbidities, symptoms, diagnostic parameters, and outcomes with imaging findings but was later omitted due to lack of sufficient data.

## Results

### Study characteristics (Table 1)

A total of around 61 cases were included in the study from 25 different articles coming from both 3 database search and preprint servers. Complete data were available for 54 (*n* = 54) cases, and laboratory findings data was unavailable in 7 cases from Varatharaj et al. (2020). The studies of 54 cases comprised of case reports and original article.

### Demography and clinical symptomatology (Tables 2 and 3)

The selected study comprised of 54 cases with the mean age around (50.8 ± 19.09) and 35 (65%) male with 19 (35%) female cases were reported for analysis with full data availability. SARS-CoV-2 was primarily detected in nasopharyngeal/oropharyngeal/bronchoalveolar swab (92.6%), CSF (5.55%), and antibody detected in two patients (3.7%) only. Majority of the reported cases had no travel history (3.7%) or contact with COVID-19 positive individuals (7.4%). They had various symptoms ranging from fever, cough, headache, etc. Potent neurological symptoms reported were tonic–clonic seizures (5.55%), disorientation to time and place (22.22%), nuchal rigidity (9.25%), limb ataxia (11.11%), etc. Various kinds of co-morbidities that existed in patients were diabetes mellitus (18.5%), hypertension (37%), Obesity (3.7%), and coronary artery disease (3.7%) with two special cases of Alzheimer’s disease and autism. The patients were hospitalized on (8.88 ± 4.094) days (mean ± SD) from the onset of the symptoms. Their average days of hospitalization were (13.83 ± 7.901) days (mean ± SD).

**Table 1** Included studies

SL. no	Authors	Title of the paper	No. of cases	Type of paper
1	Po Fung Wong et al. (2020) (UK)	A case of rhombencephalitis as a rare complication of acute COVID-19 infection	1	Lessons of the Month
2	Adelaide Panariello et al. (2020) (Italy)	Anti-NMDA receptor encephalitis in a psychiatric Covid-19 patient: a case report	1	Letter to Editor
3	Mohammad Al Olama et al. (2020) (UAE)	COVID-19-associated meningoencephalitis complicated with intracranial hemorrhage: a case report	1	Case Report
4	H. Chaumont et al. (2020) (France)	Acute meningoencephalitis in a patient with COVID-19	1	Letter to Editor
5	Andrea Pilotto et al. (2020) (Italy)	COVID-19 impact on consecutive neurological patients admitted to the emergency department	14	Original article
6	Rong Yin et al. (2020) (China)	Concomitant neurological symptoms observed in a patient diagnosed with coronavirus disease 2019	1	Letter to Editor
7	Gary N. McAbee et al. (2020) (USA)	Encephalitis associated with COVID-19 infection in an 11 year-old child	1	Letter to Editor
8	Sandeep Sohal, Mansoor Mosammat (2020) (USA)	COVID-19 presenting with seizures	1	Original Article
9	Rebecca Packwood et al. (2020) (USA)	An unusual case report of COVID-19 presenting with meningitis symptoms and shingles	1	Case Report
10	Charcon Aguilar et al. (2020) (Spain)	COVID-19: Fever syndrome and neurological symptoms in a neonate	1	Letter to Editor
11	Hale Afshar et al. (2020) (Iran)	Evolution and resolution of brain involvement associated with SARS- CoV2 infection: a close clinical – paraclinical follow up study of a case	1	Case Report
12	Ye et al. (2020) (China)	Encephalitis as a clinical manifestation of COVID-19	1	Letter to Editor
13,	Narges Karimi et al. (2020) (Iran)	Frequent convulsive seizures in an adult patient with COVID-19: A Case Report	1	Case Report

**Table 1** (continued)

SL. no	Authors	Title of the paper	No. of cases	Type of paper
14	Ibrahim Efecan Efe (2020) (Turkey, Germany)	COVID-19-associated encephalitis mimicking glial tumor: a case report	1	Case Report
15	Duong et al. (2020) (USA)	Meningoencephalitis without respiratory failure in a young female patient with COVID-19 infection in downtown Los Angeles, early April 2020	1	Letter to Editor
16	Moriguchi et al. (2020) (Japan)	A first case of meningitis/encephalitis associated with SARS-Coronavirus-2	1	Case Report
17	Misayo Hayashi et al. (2020) (Japan)	COVID-19-associated mild encephalitis/encephalopathy with a reversible splenic lesion	1	Letter to Editor
18	Andrea Pilotto et al. (2020) (Italy)	Steroid-responsive encephalitis in Covid-19 disease	1	Original Article
19	Dogan et al. (2020) (Turkey)	Plasmapheresis treatment in COVID-19-related autoimmune meningoencephalitis: case series	6	Original Article
20	Debaleena Mukherjee et al. (2020) (India)	Ataxia as a presenting manifestation of COVID-19: Report of a single case	1	Case Report
21	Raphael Bernard-Valnet et al. (2020) (Switzerland)	Two patients with acute meningo-encephalitis concomitant to SARS-CoV-2 infection	2	Letters to Editor
22	Mauro Morassi et al. (2020) (Italy)	Stroke in patients with SARS-CoV-2 infection: case series	1	Original Article
23	Guy Talmor et al. (2020) (USA)	Nasoseptal flap necrosis after endoscopic skull base surgery in the setting of SARS-CoV-2/COVID-19	1	Case Report
24	Manuel Romero et al. (2020) (Spain)	Neurologic manifestations in hospitalized patients in COVID-19 The ALBACOVID registry	1	Original Article
25	Varatharaj A et al. (2020) (UK)	Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study	7	Original Article

## Laboratory findings

### Hematological parameters (Table 4)

Major cell counts were observed within various patients. Recorded WBC counts in cases ( $n = 13$ ) were  $(10.12 \pm 8.33) \times 10^9$  (mean  $\pm$  SD) with a  $p = 0.734$  and lymphocyte counts observed for six patients ( $n = 6$ ) were  $(3.177 \pm 3.06) \times 10^9$  (mean  $\pm$  SD). Elevated levels of C-reactive protein (CRP) among patients ( $n = 13$ ) around  $(102 \pm 129.8; \text{mean} \pm \text{SD})$  (mg/L) were reported with a  $p = 0.064$ . Moreover, highly significant levels of D-dimer (ng/ml) in patients ( $n = 10$ ) were observed with a significant  $p = 0.0186$  ( $p < 0.05$ ).

### CSF parameters (Table 4)

Various CSF parameters under biochemical analysis such as glucose (mg/dl) ( $n = 16$ ) and protein (mg/dl) ( $n = 18$ ) were recorded where significant levels of protein ( $p = 0.00457$ )

with elevation of  $(73.61 \pm 56.31)$  mg/dl from the normal range of  $(15–45)$  mg/dl was observed. Moreover, certain cell count parameters such as lymphocyte ( $n = 6$ ) was significantly ( $p = 0.009$ ) higher than the normal range. CSF IgG levels (mg/L) were also found to be significantly ( $p = 0.0001$ ) raised in five patients ( $n = 5$ ).

### EEG findings (Table 5)

EEG findings were reported in 9 cases, and in the remaining 20 cases this parameter was not available for analysis. Bernard Valnet et al. reported EEG from one patient as abundant bursts of anterior low-medium voltage irregular spike-and waves superimposed on an irregularly slowed theta background (Bernard-Valnet et al. 2020), whereas Sohal et al. documented that the patient had six left temporal seizures, left temporal sharp waves which were epileptogenic in nature (Sohal and Mossamat 2020). Pilotto et al. showed generalized slowing with decreased reactivity to acoustic stimuli (Pilotto et al. 2020), and bilateral slowed activity without seizures was

**Table 2** Demographic characteristics of patients hospitalized with COVID-19

Demographic feature	Total (n = 54)
Age (n = 26) (years, mean ± SD)	50.8 ± 19.09
Sex (n (%))	
Male	35 (65%)
Female	19 (35%)
Social history (n (%))	
Travel history	2 (3.7%)
Contact with Covid-positive individuals	4 (7.4%)
Systemic co-morbidities (n (%))	
Diabetes mellitus	10 (18.5%)
Hypertension	20 (37%)
Obesity	2 (3.7%)
Coronary artery disease	2 (3.7%)
Chronic kidney disease	1 (1.85%)
Cancer	1 (1.85%)
Substance abuse	1 (1.85%)
Cerebrovascular disease	3 (5.55%)
Hyperlipidemia	1(3.5%)
Dyslipidemia	6 (11.11%)
Autism	1 (1.85%)
Alzheimer's disease	1 (1.85%)
Mental retardation (with no structural abnormalities)	1 (1.85%)
Previous diagnosis of possible encephalitis and Behcet disease	1 (1.85%)
SARS–Cov2 detection (n (%))	
CSF	3(5.55%)
Nasopharyngeal swab/ Oropharyngeal swab / Bronchoalveolar lavage	50(92.6%)
Antibody detection (IgG/ IgM)	2(3.7%)
Days between symptom appearance and hospital admission (n = 15] (days, mean ± SD)	8.88 ± 4.094
Days of hospitalization (= 23) (days, mean ± SD)	13.83 ± 7.901

n = no. of cases for which data was available for that particular variable. Total number of cases = 54

reported by Chaumont et al. (2020). Generalized slowing with no epileptic discharges was also documented by Duong et al. (2020). McAbee et al. only reported frontal intermittent delta activity (McAbee et al. 2020). On the other hand Adelaide Panariello et al. reported theta activity at 6 Hz, unstable and non reactive to visual stimuli without significant asymmetries (Panariello et al. 2020). Continuous monitoring with amplitude-integrated

**Table 3** Clinical signs and symptoms

Symptoms	Total (n = 54)
General symptoms (n (%))	
Fever	32 (59.25%)
Cough	23 (42.6%)
Dyspnoea	15 (27.8%)
Fatigue	18 (33.33%)
Headache	7 (13%)
Breathing difficulty/Shortness of breath	2 (3.7%)
Anosmia	1 (1.85%)
Ageusia	1 (1.85%)
Dysgeusia	1 (1.85%)
Myalgia	5 (9.25%)
Nausea	1 (1.85%)
Dizziness	3 (5.55%)
Diarrhoea	4 (7.40%)
Anorexia	1 (1.85%)
Rhinorrhea	2 (3.7%)
Vomiting	2 (3.7%)
Abdominal pain	1 (1.85%)
Constipation	1 (1.85%)
Respiratory distress	2 (3.7%)
Neurological symptoms (n (%))	
Delirium/Altered mental status	1 (3.5%)
Confusion / Disorientation / Altered HMF	20 (37%)
Focal motor deficits	12 (22.22%)
Seizures	6 (11.11%)
Limb ataxia	6 (11.11%)
Nuchal rigidity	6 (11.11%)
Aphasia	5 (9.25%)
Tonic–clonic seizures	3 (5.55%)
Verbal and motor perseverations	3 (5.55%)
Bilateral grasping	1 (1.85%)
Visual hallucinations	2 (3.7%)
Speech slurring	2 (3.7%)
Kernig's sign	3 (5.55%)
Babinski sign	1 (1.85%)
Chaddock sign	1 (1.85%)
Brudzinski sign	1 (1.85%)
Increased deep tendon reflexes	2 (3.7%)

n = no. of cases for which data was available for that particular variable. Total number of cases = 54

electroencephalography (EEG) by Charcon Aguilar et al. for 36 h revealed a continuous background pattern with sleep–wake cycles in the absence of electrical and clinical seizures for a patient (Chacón-Aguilar et al. 2020). Interestingly Morassi et al. reported that on day 4 the EEG showed a normal background in the alpha range (8 Hz) associated with recurrent sharp slow waves over the left temporal region, which occasionally were seen also on

**Table 4** Clinical and laboratory diagnostic parameters

Test	Normal value	Mean $\pm$ SD	<i>p</i> value
Blood pressure (mm Hg) ( <i>n</i> = 5)			
Systolic pressure	120	128.2 $\pm$ 22.68	0.4641
Diastolic pressure	80	78.60 $\pm$ 9.12	0.3513
Heart rate (beats/min) ( <i>n</i> = 5)	82	93 $\pm$ 4.41	0.004*
O <sub>2</sub> saturation (at room air) (%) ( <i>n</i> = 8)	97	93.63 $\pm$ 3.88	0.0120*
Respiratory rate (breaths per minute) ( <i>n</i> = 8)	20	25.33 $\pm$ 7.448	13.98
WBC ( <i>n</i> = 13)	(4–11) $\times 10^9$	(10.12 $\pm$ 8.33) $\times 10^9$	0.734
Lymphocyte ( <i>n</i> = 6)	(1.5–3.5) $\times 10^9$	(3.177 $\pm$ 3.06) $\times 10^9$	0.8717
Platelets ( <i>n</i> = 6)	(150–450) $\times 10^9$	(326.4 $\pm$ 258.8) $\times 10^9$	0.345
C-reactive protein (mg/L) ( <i>n</i> = 13)	< 10 mg/L	(102 $\pm$ 129.8)	0.064
D-dimer (ng/ml) ( <i>n</i> = 10)	500 ng/ml	(3970 $\pm$ 3217)	0.0186*
LDH (U/L) ( <i>n</i> = 13)	140–280	642 $\pm$ 494.9	0.059
CSF parameters			
Protein (mg/dl) ( <i>n</i> = 18)	15–45	73.61 $\pm$ 56.31	0.00457*
Glucose (mg/dl) ( <i>n</i> = 16)	45–80	95.24 $\pm$ 42.16	0.2170
Lymphocyte ( <i>n</i> = 6)	62%	95.33 $\pm$ 5.68	0.009*
IgG (mg/L) ( <i>n</i> = 5)	0–81	4.91 $\pm$ 1.32	< 0.0001*
IgG index (mg/L) ( <i>n</i> = 5)	0–0.7	1.50 $\pm$ 1.84	0.4479
AlbQ ( <i>n</i> = 5)	1.85	10.32 $\pm$ 3.65	< 0.0001*

*n* = no. of cases for which data was available for that particular variable. Total number of cases = 54

\*Indicates *p* < 0.05 which is considered statistically significant

the right homologous regions. On day 10, a new EEG excluded non-convulsive status epilepticus, while showing persistence of sharp slow waves, mainly over the left hemispheric regions for the same patient (Morassi et al. 2020).

### Neuroimaging findings (Table 6)

Neuroimaging findings were reported in 20 studies consisting of 26 cases, and in the remaining 35 cases brain scans were not available. Among the imaging modalities, CT scan and MRI were done in 10 and 16 cases respectively. Vessel imaging was available in 1 case (CTA). In majority of the cases neuroimaging finding did not reveal any abnormality (13/26, 50%). At least one radiological abnormality was reported in 14 cases (14/26, 53.84%). Among the abnormal MRI findings, T2/T2 FLAIR hyperintensity in MRI brain was the most frequently reported (6/16, 37.5%). Noteworthy, temporal lobe was the commonest site of involvement in MRI brain (6 cases). Stroke-like findings manifested by hypodensity on CT scan (3 cases) and diffusion restriction in MRI (2 cases) were also observed. Beaded appearance on CT angiography was reported in 1 case associated with extradural haemorrhage.

### Treatment and outcome (Tables 7 and 8)

Treatment were carried out with various drugs such as Hydroxychloroquine (74%), Azithromycin (29.41%),

Antiretroviral drugs (Lopinavir/Ritonavir/Darunavir/Cobisitat) (55.55%), and Favipiravir (14.81%) or used in multidrug therapy (81.48%). Various procedures such as Plasmapheresis (11.11%) and invasive ventilation (26%) were used along with many other therapies on the patients. Frequently used multidrug therapy includes Hydroxychloroquine along with Antivirals (57.40%). Majority of the patients recovered (72%) with a mortality of (17%), and six patients were still under treatment during the period of study.

### Discussion

In the index paper we attempted to summarize the clinical features, laboratory parameters, EEG findings, and imaging abnormalities in patients presenting with confirmed SARS-CoV-2 infection and clinical/confirmed meningoencephalitis. Of note, a fair number of cases with meningoencephalitic presentation of COVID-19 have already surfaced up even in the background of possible under-reporting because of the ongoing pandemic. We found description of 61 such cases in the available literature so far among which 54 were included in the final analysis as detailed data for the remaining 7 cases were not available. To the best of our knowledge, this is the first ever attempt to explore meningoencephalitis in COVID-19 by means of systematic review of both peer reviewed as well

**Table 5** EEG findings

Authors	Number of cases	EEG findings
Wong et al. (2020)	1	NA
Panariello et al. (2020)	1	Theta activity at 6 Hz, unstable, non reactive to visual stimuli. No significant asymmetries were seen
Al-olama et al. (2020)	1	NA
Chaumont et al. (2020)	1	Bilateral slowed activity without seizures
Pilotto, et al. (2020)	25	NA
Yin et al. (2020)	1	NA
McAbee et al. (2020)	1	Frontal intermittent delta activity
Sohal and Mossammat (2020)	1	Six left temporal seizures, left temporal sharp waves which were epileptogenic
Packwood et al. (2020)	1	NA
Chacón-Aguilar et al. (2020)	1	Continuous monitoring with amplitude-integrated electroencephalography (EEG) for 36 h revealed a continuous background pattern with sleep–wake cycles in the absence of electrical and clinical seizures
Afshar et al. (2020)	1	NA
Ye et al. (2020)	1	NA
Narges Karimi et al.	1	NA
Efe et al. (2020)	1	NA
Duong et al. (2020)	1	Generalized slowing with no epileptic discharges
Moriguchi et al. (2020)	1	NA
Hayashi et al. (2020)	1	NA
Pilotto et al. (2020)	1	Generalized slowing with decreased reactivity to acoustic stimuli
Dogan et al. (2020)	6	NA
Mukherjee et al. (2020)	1	NA
Bernard-Valnet et al. (2020)	2	Patient 1: abundant bursts of anterior low-medium voltage irregular spike-and waves superimposed on an irregularly slowed theta background Patient 2: NA
Morassi et al. (2020)	1	On day 4, EEG showed a normal background in the alpha range (8 Hz), associated with recurrent sharp slow waves over the left temporal region, which occasionally were seen also on the right homologous regions On day 10, a new EEG excluded non-convulsive status epilepticus, while showing persistence of sharp slow waves, mainly over the left hemispheric regions
Talmor et al. (2020)	1	NA
Romero-Sánchez et al. (2020)	1	NA
Varatharaj et al. (2020)	7	NA

as pre-print data. The present study is important in terms of advancing our knowledge and understanding related to the neuro-invasive potential of SARS-CoV-2 which primarily is considered a respiratory pathogen.

Coronaviruses have been detected in both cerebrum and cerebrospinal fluid of individuals with seizures, encephalitis, and encephalomyelitis (Varatharaj et al. 2020). According to different case reports of MERS coronavirus, neurological manifestations such as meningoencephalitis, hyporeflexia, and ataxia have been found (Bohmwald et al. 2018). It was also shown that neuronal infection leads to death in hACE2 (full form) transgenic mice infected with SARS-CoV (Kim et al. 2017 Jul). Accumulative evidences reflect that virus has been detected in cerebrum (Netland

et al. 2008) as well as in CSF in case of SARS-CoV infection (Ding et al. 2004). Other coronaviruses such as HCoV-OC43 under the genera of *Betacoronaviridae* is found to be associated with viral encephalitis (Lau et al. 2004) and acute disseminated encephalomyelitis (Morfopoulou et al. 2020). Similarly, CoV-NL63 under the genera of *Alphacoronaviridae* causes acute encephalitis with self-limiting CNS infection (Yeh et al. 2004). Viral encephalitis caused by coronavirus infection was reported among paediatric population with respiratory tract infection (Schattner et al. 1032). Overall, the predisposition of various coronaviruses towards neurotropism seems evident and very much happening which is generating a major concern for virus mediated encephalitis.

**Table 6** Neuroimaging findings

SL. no	Imaging type	Findings
1	CT	NAD- [Panariello et al. 2020, Yin et al. 2020, McAbee et al. 2020, Ye et al. 2020, Duong et al. 2020, Pilotto et al. 2020, Mukherjee et al. 2020] Haemorrhagic- Frontal EDH [Al-olama et al. 2020] Ischemic- Right caudate nucleus [Morassi et al. 2020] Chronic microvascular change [Sohal and Mossamat 2020]
2	MRI	NAD-[ref-Chaumont et al. 2020, Karimi et al. 2020, Dogan et al. 2020 (case no 3,4,5), Bernard-Valnet et al. 2020] T <sub>2</sub> [Wong et al. 2020, Afshar et al. 2020, Efe et al. 2020] or T <sub>2</sub> /FLAIR hyperintensity-[ref-Efe et al. 2020, Moriguchi et al. 2020, Morassi et al. 2020, Ramero-Sanchez et al. 2020] Encephalitis like feature (hyperintensity, enhancement, haemorrhage) [Dogan et al. 2020 (case nos 1, 2, 6)] DWI Restriction/ADC hypodensity [Moriguchi et al. 2020, Hayashi et al. 2020]
3	Angiography	CTA Beaded appearance-[Al-olama et al. 2020] MRA NA
5	MRS	Choline peak-[Efe et al. 2020]
4	Not available	[Pilotto et al. 2020, Packwood et al. 2020, Chacon-Aguillar 2020, Talmor et al. 2020, Romrero-Sanchez et al. 2020, Varatharaj et al. 2020]

CT computed tomography, MRI magnetic resonance imaging, MRS magnetic resonance spectroscopy, NAD no appreciable disease, FLAIR hyperintensity fluid attenuated inversion recovery hyperintensity, DWI diffusion-weighted imaging, ADC apparent diffusion coefficient, CTA computed tomography angiography, MRA magnetic resonance angiography

Analysis of the demographic parameters reveals that mean age of the patients with COVID-19-related meningoencephalitis was (50.8 ± 19.09) years with males being more commonly affected (70%). Mean latency between symptom onset and hospital admission was close to 9 days, while mean number of days of hospital stay was approximately 14 days. Majority of the documented patients had co-morbidities with diabetes mellitus and hypertension being most frequent. Among the general symptoms, fever was by far the commonest followed by cough. Notably, anosmia and ageusia (commonly

**Table 7** Treatment and outcome

Combination therapy	
Multidrug Therapy	44 (81.48%)
Most common multidrug (hydroxychloroquine and antivirals)	31 (57.40%)
Therapeutics	
Hydroxychloroquine (HCQ)	40 (74%)
Antivirals (Lopinavir/Ritonavir/Darunavir/Cobis-tat)	30 (55.55%)
Azithromycin (AZT)	10 (29.41%)
Remdesivir	1 (1.85%)
Favipiravir (FAV)	8 (14.81%)
Ceftriaxone (CEF)	5 (9.25%)
Ganciclovir	1 (1.85%)
Meropenem	2 (3.7%)
Amoxicillin	4 (7.47%)
Acyclovir	7 (13%)
Arbidol	1 (1.85%)
Ribavirin	1 (1.85%)
Vancomycin	4 (7.47%)
Plasmapheresis	6 (11.11%)
Invasive ventilation	14 (26%)
Non Invasive ventilation	5 (9.25%)
IVIG	6 (11.11%)
Steroids	16 (30%)
Mannitol infusion	1 (1.85%)
Outcome	
Recovery rate	39 (72%)
Still in treatment	6 (11.11%)
Mortality rate	9 (17%)

considered as markers of neuro-invasion) were reported in uncommonly. In contrast, diarrhoea was relatively common (7.40%) among the general symptoms. Respiratory distress was reported in 2 (3.7%) of the documented cases.

Various neurological symptoms were reported in meningoencephalitis associated with SARS-CoV-2 infection. Confusion or disorientation to time and place or altered mental status was the most frequently reported symptom accounting for 22.22% of the cases. It may therefore be assumed that in places reporting high incidence of COVID-19, confusion or disorientation may prompt investigation for detection of SARS-CoV-2. While the classic Kernig's and Brudzinski's signs were not frequently documented, nuchal rigidity has been more commonly (9.25%) observed. Limb ataxia was reported in around 11% of the cases including the case reported by one of the authors of the present review. Other less reported neurological symptoms include tonic clonic seizures, slurred speech,

**Table 8** Drug dosages with duration

Serial no	Authors	Treatment		
		Drugs	Dose	Duration
1	Po Fung Wong et al. (2020)	Amoxicillin (oral)	500 mg	Three times per day
		Paracetamol (oral)	1 g	Four times per day
		Gabapentin (oral) at discharge	300 mg	Twice per day
2	Adelaide Panariello et al. (2020)	Haloperidol, promazine, intranasal midazolam, oral quetiapine with no clinical response. Antibiotic prophylactic therapy was started.	NA	NA
		High doses of dexamethasone and IVIG were administered.		
3	Al Olama et al. (2020)	NA	NA	NA
4	Chaumont et al. (2020)	Acyclovir infusions	NA	Three days
		Hydroxychloroquine sulphate	200 mg	3 times per day for 7 days
		Azithromycin	250 mg	Once daily for 7 days
5	Andrea Pilotto et al. (2020)	NA	NA	NA
6	Rong Yin et al. (2020)	Arbidol, Ribavirin antiviral therapy, traditional Chinese medicine	NA	NA
7	Gary McAbee et al. (2020)	NA	NA	NA
8	Sandeep Sohal and Mansoor Mosamat (2020)	Hydroxychloroquine, Azithromycin, Vancomycin, Piperacillin tazobactam, Levetiracetam, Valproate	NA	NA
9	Rebecca Packwood et al. (2020)	Acyclovir, Vancomycin, Ceftriaxone, Doxycycline	NA	NA
		Lopinavir/Ritonavir	NA	NA
		Hydroxychloroquine and Azithromycin	NA	6 day course
		Remdesivir	NA	NA
		NA	NA	NA
10	Charcon Aguilar et al. (2020)	NA	NA	NA
		Broad spectrum IV antibiotics: Meropenem	1 g 750 mg	Thrice daily Daily
		Levofloxacin Linezolid	600 mg	Twice daily
11	Hale Afshar et al. (2020)	Hydroxychloroquine	400 mg	Twice for first day
		Atazanavir	200 mg 400 mg	Twice Daily
		IVIG	25 g/day later 3 g/kg body weight (250 g total)	3 days
		Levetiracetam (IV)	500 mg	Twice daily
		Methylprednisolone (IV)	500 mg/day	6 days
12	Ye et al. (2020)	Arbidol, Mannitol infusion	NA	NA
13	Narges Karimi et al. (2020)	Phenytoin (IV), Levetiracetam (IV)		
		Chloroquine	200 mg	Twice daily
		Lopinavir/Ritonavir	400/100 mg	Twice daily
14	Ibrahim Efecan Efe et al. (2020)	NA	NA	NA



**Table 8** (continued)

Serial no	Authors	Treatment		
		Drugs	Dose	Duration
15	Duong et al. (2020)	Antibiotics: Vancomycin, Ceftriaxone	NA	3 days
		Acyclovir	NA	NA
		Anti-epileptics (not mentioned)	NA	NA
16	Moriguchi et al. (2020)	Hydroxychloroquine	NA	NA
		Ceftriaxone (IV), Vancomycin (IV), Acyclovir (IV), Steroids (IV) Favipiravir (IV)	NA	NA 10 days
		Sulbactam/ampicillin	1.5 g	Twice per day
17	Misayo Hayashi et al. (2020)	Favipiravir,	NA	NA
		Corticosteroid pulse, Ciclesonide, Meropenem		
		Lopinavir/Ritonavir	400/100 mg	Twice daily
18	Pilotto et al. (2020)	Hydroxychloroquine	200 mg	Twice daily
		High dose IV steroid: Methylprednisolone	1 g/day	5 days
		Lopinavir/Ritonavir, Azithromycin, Ceftriaxone, Hydroxychloroquine, Favipiravir, Plasmapheresis cycles	NA	NA
19	Dogan et al. (2020)			
20	Debaleena Mukherjee et al. (2020)	Intravenous antibiotics and other supportive therapy	NA	NA
21	Raphael Bernard-Valnet et al. (2020)	Patient 1: Clonazepam and Valproate (IV)	NA	NA
		Patient 2: Ceftriaxone, Amoxicillin, Acyclovir	NA	NA
22	Morassi et al. (2020)	NA	NA	NA
23	Guy Talmor et al. (2020)	Azithromycin, Hydroxychloroquine	NA	NA
24	Romero Sanchez (2020)	Most commonly used combination: Hydroxychloroquine, Lopinavir/Ritonavir, N-acetylcysteine, Azithromycin	NA	NA
		Emtricitabine/Tenofovir or Ribavirin (replacing Lopinavir/Ritonavir)	NA	NA
		Antibiotics: Levofloxacin, Doxycycline, Ceftriaxone, Teicoplanin		
		Corticosteroid IV: Methylprednisolone	125 mg, 250 mg > 250 mg	NA

**Table 8** (continued)

Serial no	Authors	Treatment		
		Drugs	Dose	Duration
		Immunomodulatory therapy: Beta-interferon, Baricitinib, IVIG, Anakinra	NA	NA
25	Andrea Pilotto et al. (2020) [The clinical spectrum of encephalitis in COVID-19 disease: the ENCOVID multicentre study]	Hydroxychloroquine, Antiviral	NA	NA
26	Vartharaj et al. (2020)	NA	NA	NA

and cognitive difficulties such as verbal and motor perseveration. SARS-CoV-2 detection in CSF was reported in only 3 cases, whereas majority (92.6%) of the patients were diagnosed based on nasopharyngeal swab/oropharyngeal swab/bronchoalveolar lavage testing.

Among the clinical signs pertaining to general survey, tachycardia and reduced oxygen saturation were common findings. Analysis of blood parameters reveal raised CRP, D-dimer, and LDH were prominent findings, while occurrence of lymphopenia or leucopenia did not reach statistical significance. CSF parameters often give valuable insight to the treating clinicians when faced with cases of meningoencephalitis. CSF parameters in COVID-19-associated meningoencephalitis raised protein and increased lymphocyte count as the most notable observations. Therefore, it can be assumed that brain infection in the background of SARS-CoV-2 infection may lead to CSF pleocytosis with lymphocytic predominance accompanied by significant level of rise in CSF protein, both pointing towards intra-theal inflammation. In addition, while there was documented dip in CSF IgG levels, the IgG index did not deviate much from the normal limits, which may be a reflection of hypoglobulinemia resulting from lymphopenia (Li et al. 2016).

Among the abnormal EEG findings documented in COVID-19 encephalitis, focal epileptiform discharges and generalized slowing are most notable. While focal discharges may signify the occurrence of focal convulsions, generalized slowing is commensurate with the high frequency of altered mental status observed thus far. In short, EEG findings in COVID-19-related meningoencephalitis are mostly non-specific and may indicate ensuing encephalopathy in majority of the cases.

Majority of the patient's brain scans were found devoid of any abnormality. However, among those with abnormal brain scans, a wide range of structural lesions have been

observed. The commonest abnormality reported was T2/FLAIR hyper-intensity affecting the temporal lobes. Among the viral causes of temporal lobar hyperintensity, HSV is the forerunner followed by CMV, while anti-NMDAR related autoimmune encephalitis frequently presents temporal lobar changes (Prasad, 1982; Sureka & Jakkani, 2012). In addition, stroke-like presentations have also been noted which are characterized by restricted diffusion in DWI.

It must also be admitted that at least 2 cases of encephalitis compiled in the present series refer to underlying autoimmune pathogenesis mechanisms. While the case reported by Panariello et al. (2020) has mentioned about the detection of anti NMDAR antibody in association with encephalitis, Pilotto et al. (2020) has described a steroid responsive encephalitis again pointing towards immune pathogenesis. Therefore, it may be speculated that several cases of meningoencephalitis related to COVID-19 may not actually reflect direct viral invasion of CNS. Post-/para-infectious immune pathologies might come into play in some of the clinical presentations. As the reporting of cases would start rising, similar reports are supposed to surface up more frequently.

As far as the treatment is concerned, more than 74% patients have received therapy with HCQ, while significant proportion of patients received azithromycin, favipiravir, and acyclovir. In fact, almost all the patients were on multi-drug regimen as was documented in this review. Reported mortality rate in COVID-19 encephalitis is 17%. Majority (72%) of the affected patients experienced recovery and around 1/9th were still under treatment at the time of drafting this review.

## Conclusion

In this systematic review we observe that quite a few reports of meningoencephalitis associated with COVID-19 are already available in recent literature even in the

face of possible under-reporting in contrast to the earlier epidemics of MERS and SARS-CoV. Various clinical presentations have surfaced up among which confusion or disorientation is the most frequent. Among the laboratory parameters, raised CRP and D-dimer are most prominent findings. Analysis of CSF parameters reveals that high protein and lymphocytic pleocytosis are the most observable abnormalities. Focal epileptiform discharges and slowing of background are common EEG abnormalities observed in COVID-19-related meningoencephalitis. A myriad of radiological abnormalities have been observed of which temporal lobar hyper-intensity and diffusion restriction are common. This review has attempted to provide a basic outline of COVID-19-related meningoencephalitis from a clinician's perspective. Hopefully with increment in reporting of neurological manifestations of COVID-19, a clearer picture will become available towards the future.

**Acknowledgements** We are sincerely thankful to Rohan Sarkhel (Department of Computer Science Engineering, Maulana Abul Kalam Azad University, India) for preparing illustration for this paper.

**Authors' contributions** RM was involved in study planning, data extraction, and primary draft writing; UG was involved in data extraction, analysis, and primary draft writing; SD participated in data extraction, data analysis, and primary draft writing; GS was involved in data extraction, data analysis, and primary draft writing; SP was involved in data analysis and primary draft writing; DB participated in data extraction and primary draft writing; DL was involved in study planning; data extraction, writing primary draft, and critically revising the whole manuscript.

## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

## References

- Afshar H, Yassin Z, Kalantari S et al (2020) Evolution and resolution of brain involvement associated with SARS-CoV2 infection: a close clinical–paraclinical follow up study of a case. *Mult Scler Relat Disord*. 43:102216
- Al-olama M, Rashid A, Garozzo D et al (2020) COVID-19-associated meningoencephalitis complicated with intracranial hemorrhage: a case report. *Acta Neurochir* 162:1495–1499
- Bernard-Valnet R, Pizzarotti B, Anichini A et al (2020) Two patients with acute meningoencephalitis concomitant with SARS-CoV-2 infection. *Eur J Neurol*. <https://doi.org/10.1111/ene.14298>
- Bohmwald K, Gálvez NMS, Ríos M, Kalergis AM et al (2018) Neurologic alterations due to respiratory virus infections. *Front Cell Neurosci* 12:386
- Chacón-Aguilar R, Osorio-Cámara JM, Sanjurjo-Jimenez I et al (2020) COVID-19: fever syndrome and neurological symptoms in a neonate. *Anales de Pediatría* 92:373–374
- Chaumont H, Etienne P, Roze E et al (2020) Acute meningoencephalitis in a patient with COVID-19. *Revue Neurologique* 176:519–521
- Ding Y, He L, Zhang Q et al (2004) Organ distribution of severe acute respiratory syndrome (SARS) associated coronavirus (SARS-CoV) in SARS patients: implications for pathogenesis and virus transmission pathways. *J Pathol* 203(2):622–630. <https://doi.org/10.1002/path.1560>
- Dogan L, Kaya D, Sarikaya T et al (2020) Plasmapheresis treatment in COVID-19–related autoimmune meningoencephalitis: case series. *Brain Behav Immun* 87:155–158
- Duong L, Xu P, Liu A et al (2020) Meningoencephalitis without respiratory failure in a young female patient with COVID-19 infection in Downtown Los Angeles, early April 2020. *Brain Behav Immun* 87:33
- Efe IE, Aydin OU, Alabulut A, Celik O, Aydin K et al (2020) COVID-19–associated encephalitis mimicking glial tumor. *World Neurosurg*. 140:46–48
- Gates B (2020) Responding to Covid-19—a Once-in-a-Century pandemic? *N Engl J Med*. <https://doi.org/10.1056/NEJMp2003762>
- Hayashi M, Sahashi Y, Baba Y, Okura H, Shimohata T et al (2020) COVID-19-associated mild encephalitis/encephalopathy with a reversible splenial lesion. *J Neurol Sci*. 415:116941
- Karimi N, Razavi AS, Rouhani N et al (2020) Frequent convulsive seizures in an adult patient with COVID-19: a case report. *Iran Red Crescent Med*. 22:e102828
- Kim J-E, Heo J-H, Kim H-o, Song S-H, Park S-S, Park T-H, Ahn J-Y, Kim M-K, Choi JP et al (2017) *J Clin Neurol* (13) 3:227–233. <https://doi.org/10.3988/jcn.2017.13.3.227>
- Koralnik IJ, Tyle KL (2020) COVID-19: a global threat to the nervous system. <https://doi.org/10.1002/ana.25807>
- Lahiri D, Ardila A (2020a) COVID-19 pandemic: a neurological perspective. *Cureus*. April 29 (12)4:e7889. <https://doi.org/10.7759/cureus.788>
- Lahiri D, Mondal R, Deb S, Shome G, Ganguly U et al (2020) Incidence, clinical presentation, laboratory findings, imaging features and outcome of meningoencephalitis in COVID-19: a systematic review and meta-analysis. *PROSPERO CRD42020185571*
- Lau KK, Yu WC, Chu CM, Lau ST, Sheng B, Yuen KY et al (2004) Possible central nervous system infection by SARS coronavirus. *Emerg Infect Dis* 10(2):342–344. <https://doi.org/10.3201/eid1002.030638>
- Li Y, Li H, Fan R et al (2016) Coronavirus infections in the central nervous system and respiratory tract show distinct features in hospitalized children. *Intervirology* 59(3):163–169. <https://doi.org/10.1159/000453066>
- McAbee GN, Brosgol Y, Pavlakis S, Agha R, Gaffoor M et al (2020) Encephalitis associated with COVID-19 infection in an 11-year-old child. *Pediatr Neurol*. <https://doi.org/10.1016%2Fj.pediatrneurol.2020.04.013>
- Morassi M, Bagatto D, Cobelli M et al (2020) Stroke in patients with SARS-CoV-2 infection: case series. *J Neurol*. <https://doi.org/10.1007/s00415-020-09885-2>
- Morfopoulou S, Brown JR, Davies EG et al (2016) Human coronavirus OC43 associated with fatal encephalitis. *N Engl J Med*. 375:497–498. <https://doi.org/10.1056/NEJMc1509458>
- Moriguchi T, Harii N, Goto J et al (2020) A first case of meningitis/encephalitis associated with SARS-Coronavirus-2. *Int J Infect Dis*. 94:55–58
- Mukherjee D, Sarkar P, Dubey S et al (2020) Ataxia as a presenting manifestation of COVID-19: report of a single case. *medRxiv*. <https://doi.org/10.1101/2020.05.24.20103648>
- Netland J, Meyerholz DK, Moore S, Cassell M, Perlman S et al (2008) Severe acute respiratory syndrome coronavirus infection causes neuronal death in the absence of encephalitis in mice transgenic for human ACE2 *Journal of Virology* Jul, 82 (15) 72647275. <https://doi.org/10.1128/JVI.00737-08>
- Packwood R, Galletta G, Tennyson J et al (2020) An unusual case report of COVID-19 presenting with meningitis symptoms and shingles. *Clinical Practice and Cases in Emergency Medicine*. <https://doi.org/10.5811/cpcem.2020.4.47557>

- Panariello A, Bassetti R, Radice A et al (2020) Anti-NMDA receptor encephalitis in a psychiatric Covid-19 patient: a case report. *Brain, Behaviour, and Immunity* 87:179–181
- Pierre SZYBA, Toko YRL, Klopfenstein TVGT et al (2020) Encephalopathy in patients with COVID-19: ‘Causality or coincidence?’ *J Med Virol.* <https://doi.org/10.1002/jmv.26027>
- Pilotto A et al (2020) The clinical spectrum of encephalitis in COVID-19 disease: the ENCOVID multicentre study. medRxiv. 06.19.20133991
- Pilotto A, Odolini S, Masciocchi S et al (2020) Steroid-responsive encephalitis in coronavirus disease 2019 [published online ahead of print, 2020 May 17]. *Ann Neurol.* <https://doi.org/10.1002/ana.25783>
- Prasad R (1982) Immunoglobulin levels in serum and cerebrospinal fluid in certain viral infections of the central nervous system *The Journal of Infectious Diseases*, September, 148(3):607. <https://doi.org/10.1093/infdis/148.3.607>
- Romero-Sánchez CM, Díaz-Maroto I, Fernández-Díaz E et al (2020) Neurologic manifestations in hospitalized patients with COVID-19: the ALBACOVID Registry. *Neurology.* <https://doi.org/10.1212/WNL.0000000000009937>
- Schattner A, Hadar S, Dubin I et al (2018) Human coronavirus NL63 and acute encephalitis. *Ann Infect Dis Epidemiol.* 3(2): 1032. ISSN: 2475–5664
- Sureka J, Jakkani RK (2012) Clinico-radiological spectrum of bilateral temporal lobe hyperintensity: a retrospective review *Br J Radiol.* 85(1017):e782–e792. <https://doi.org/10.1259/bjr/30039090>
- Sohal S, Mossammat M (2020) COVID-19 Presenting with seizures. *IDCases* 20:e00782
- Talmor G, Grube JG, Eloy JA, Liu JK, Hsueh WD et al (2020) Nasoseptal flap necrosis after endoscopic skull base surgery in the setting of severe acute respiratory syndrome coronavirus 2/ coronavirus 2019. *World Neurosurg.* <https://doi.org/10.1016/j.wneu.2020.05.237>
- Varatharaj A, Thomas N, Ellul MA et al (2020) Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study. *Lancet Psychiatry.* S2215–0366(20)30287-X. [https://doi.org/10.1016/S2215-0366\(20\)30287-X](https://doi.org/10.1016/S2215-0366(20)30287-X)
- Wong PF, Craig S, Newman P et al (2020) A case of rhombencephalitis as a rare complication of acute COVID-19 infection. *Clin Med* 20:293–294
- Ye M, Ren Y, Lv T et al (2020) Encephalitis as a clinical manifestation of COVID-19. *Brain Behav Immun* 1591:30465–30467
- Yeh EA, Collins A, Cohen ME, Duffner PK, Faden H (2004) Detection of coronavirus in the central nervous system of a child with acute disseminated encephalomyelitis. *Pediatrics* 113(1 Pt 1):e73–e76. <https://doi.org/10.1542/peds.113.1.e73>
- Yin R, Feng W, Wang T et al (2020) Concomitant neurological symptoms observed in a patient diagnosed with coronavirus disease 2019. *J Med Virol.* <https://doi.org/10.1002/jmv.25888>
- Zubair AS, McAlpine LS, Gardin T, MPP; Farhadian S, Kuruvilla DE, Spudich S et al (2019) Neuropathogenesis and Neurologic Manifestations of the Coronaviruses in the Age of Coronavirus Disease. *JAMA Neurol.* <https://doi.org/10.1001/jamaneurol.2020.2065>

**Publisher’s Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

---

**From:** Remote Learning <remoteteachingnycn0w@gmail.com>  
**Sent:** Thursday, February 17, 2022 3:21 PM  
**To:** cec1@schools.nyc.gov; cec2@schools.nyc.gov; cec3@schools.nyc.gov; cec4@schools.nyc.gov; cec5@schools.nyc.gov; cec6@schools.nyc.gov; cec7@schools.nyc.gov; cec8@schools.nyc.gov; cec9@schools.nyc.gov; cec10@schools.nyc.gov; cec11@schools.nyc.gov; cec12@schools.nyc.gov; cec13@schools.nyc.gov; cec14@schools.nyc.gov; cec15@schools.nyc.gov; cec16@schools.nyc.gov; cec17@schools.nyc.gov; cec18@schools.nyc.gov; cec19@schools.nyc.gov; cec20@schools.nyc.gov; cec21@schools.nyc.gov; cec22@schools.nyc.gov; cec23@schools.nyc.gov; cec24@schools.nyc.gov; cec25@schools.nyc.gov; cec26@schools.nyc.gov; cec27@schools.nyc.gov; cec28@schools.nyc.gov; cec29@schools.nyc.gov; cec30@schools.nyc.gov; cec31@schools.nyc.gov; cec32@schools.nyc.gov; ccse@schools.nyc.gov; ccell@schools.nyc.gov; cchs@schools.nyc.gov; D75Council@schools.nyc.gov; officeofthefirstdeputychancellor@schools.nyc.gov; face@schools.nyc.gov; TLisant@schools.nyc.gov; ETobia@schools.nyc.gov; KWatts@schools.nyc.gov; BFreeman6@schools.nyc.gov; DRux@schools.nyc.gov; MSarduy@schools.nyc.gov; MDegovi@schools.nyc.gov; lockbox@washpost.com; tips@nytimes.com; Testimony; ocr@ed.gov; press@uft.org; sroberson@uft.org; rmantell@uft.org; jhinds@uft.org; agoldman@uft.org; mvaccaro@uft.org; kalford@uft.org; mginese@uft.org; tbrown@uft.org; lbarr@uft.org; dpenny@uft.org; msill@uft.org; mmulgrew@uft.org; nytletters@uft.org; nytmail@uft.org; tips@theintercept.com; Treyger, Mark; Chin; District2; Speaker Corey Johnson; Office of Council Member Powers; BKallos@benkallos.com; Helen@helenrosenthal.com; District7; Ayala, Diana; D09Perkins; Rodriguez, Ydanis; Dinowitz; District12; Gjonaj, Mark; Cabrera, Fernando; District15; District16Bronx; Salamanca; Diaz, Ruben; District19; Koo, Peter; Moya, Francisco; District22; Grodenchik, Barry S.; District24; Dromm, CM; Van Bramer, Jimmy; Adams; Koslowitz, CM; District30; District31; Ulrich, Eric; Levin, Stephen; Reynoso, Antonio; Cumbo, Laurie; District36; District37; info38; Council Member Lander; Eugene, Mathieu; District41; Verdree, Vinson; AskJB; AskKalman; District45; Maisel, Alan; District48; Rose, Deborah; Matteo, Steven; Joseph Borelli; parent-power-2021@googlegroups.com; wnbc.viewermail@nbcuni.com; BrainandLife@wolterskluwer.com; info@brainandlife.org; scacustserv@cdsfulfillment.com; editors@sciam.com; letters@newscientist.com; lastword@newscientist.com; newseditors@newscientist.com; rtessman@aan.com; mrosko@aan.com; gazette@harvard.edu; viewer@pbs.org; pressroom@natgeo.com; acheng3@schools.nyc.gov; RZweig@schools.nyc.gov; protond@schools.nyc.gov; ecastro16@schools.nyc.gov; soliger@schools.nyc.gov; dgraham14@schools.nyc.gov; mpritchard2@schools.nyc.gov; mpica@schools.nyc.gov; MBatista19@schools.nyc.gov; RCintro@schools.nyc.gov; jrose@schools.nyc.gov; scook6@schools.nyc.gov; iroman5@schools.nyc.gov; amendez14@schools.nyc.gov; rpeart@schools.nyc.gov; feliciano10@schools.nyc.gov; RAlvare4@schools.nyc.gov; tcoleman13@schools.nyc.gov; mduran13@schools.nyc.gov; JJoynt@schools.nyc.gov; SHernandez42@schools.nyc.gov; HSherma@schools.nyc.gov; BOrtiz35@schools.nyc.gov; yeleuti@schools.nyc.gov; MHulla@schools.nyc.gov; mcorrea@schools.nyc.gov; CVaughan2@schools.nyc.gov; ycrespo@schools.nyc.gov; LCaine2@schools.nyc.gov; JRosado3@schools.nyc.gov; SAllen17@schools.nyc.gov; emartinez45@schools.nyc.gov; JRoss11@schools.nyc.gov; ghagin@schools.nyc.gov; cmattis@schools.nyc.gov; mprayor@schools.nyc.gov; mmoses4@schools.nyc.gov; mthomas57@schools.nyc.gov; KSamuels@schools.nyc.gov; layers2@schools.nyc.gov; ABaez17@schools.nyc.gov; NDixon3@schools.nyc.gov; lruizferreira@schools.nyc.gov; ASkop@schools.nyc.gov; CFarrell8@schools.nyc.gov;

**To:** bdiaz14@schools.nyc.gov; YMartin3@schools.nyc.gov; cbrogdon-cruz@schools.nyc.gov; irivas2@schools.nyc.gov; SLindsa@schools.nyc.gov; plewis22@schools.nyc.gov; msargeat@schools.nyc.gov; CDougla22@schools.nyc.gov; salexandre2@schools.nyc.gov; rcarter4@schools.nyc.gov; TCollins@schools.nyc.gov; vedwards3@schools.nyc.gov; dpretto@schools.nyc.gov; WChin1@schools.nyc.gov; Sjasinski@schools.nyc.gov; IDimola@schools.nyc.gov; gpezzolanti@schools.nyc.gov; MDorney2@schools.nyc.gov; JBove@schools.nyc.gov; hfiorica@schools.nyc.gov; ldalton@schools.nyc.gov; MPate@schools.nyc.gov; pbesthardy@schools.nyc.gov; wrochford@schools.nyc.gov; RLozada@schools.nyc.gov; anievesgarcia@schools.nyc.gov; SWalch@schools.nyc.gov; KLouiss@schools.nyc.gov; RVelez6@schools.nyc.gov; JOrtega7@schools.nyc.gov; FWalsh@schools.nyc.gov; PChea@schools.nyc.gov; SPineda7@schools.nyc.gov; VOrlen@schools.nyc.gov; erivera2@schools.nyc.gov; CChan2@schools.nyc.gov; kmcguire@schools.nyc.gov; jgreenblatt@schools.nyc.gov; TSibulkinyacker@schools.nyc.gov; cloughl@schools.nyc.gov; tmcclaire@schools.nyc.gov; sozman@schools.nyc.gov; KDelaCr@schools.nyc.gov; npereira@schools.nyc.gov; LPatino3@schools.nyc.gov; RDavson@schools.nyc.gov; eclayton@schools.nyc.gov; ctenorio@schools.nyc.gov; MRamire4@schools.nyc.gov; ralicea@schools.nyc.gov; chernandez41@schools.nyc.gov; ELindse@schools.nyc.gov; dswift@schools.nyc.gov; eduarte@schools.nyc.gov; CSchneider2@schools.nyc.gov; SGales@schools.nyc.gov; eruiz16@schools.nyc.gov; MChan2@schools.nyc.gov; emcnamee@schools.nyc.gov; ssantacruz@schools.nyc.gov; DDiMang@schools.nyc.gov; emaluto@schools.nyc.gov; jyin4@schools.nyc.gov; DGiunta4@schools.nyc.gov; KDangelo4@schools.nyc.gov; WMo@schools.nyc.gov; JAmbert@schools.nyc.gov; TCantante@schools.nyc.gov; TPate@schools.nyc.gov; srueda@schools.nyc.gov; rfenton@schools.nyc.gov; BMitche2@schools.nyc.gov; JPressey@schools.nyc.gov; khardy3@schools.nyc.gov; PCompos@schools.nyc.gov; bsharma@schools.nyc.gov; marcos2@schools.nyc.gov; MWilson11@schools.nyc.gov; JRivera182@schools.nyc.gov

**Subject:** [EXTERNAL] COVID reinfections surge during Omicron onslaught

Scientists say the new variant is probably driving the surge because it can evade the body's immune defences. And research has shown that immunity acquired through previous infection is less effective against Omicron than against other variants

[https://www.nature.com/articles/d41586-022-00438-3?utm\\_source=Nature+Briefing&utm\\_campaign=0b43588f67-briefing-dy-20220217&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-0b43588f67-45375294](https://www.nature.com/articles/d41586-022-00438-3?utm_source=Nature+Briefing&utm_campaign=0b43588f67-briefing-dy-20220217&utm_medium=email&utm_term=0_c9dfd39373-0b43588f67-45375294)



**NYC Council Committee on Education**  
Oversight – COVID Impact on English Language Learners (ELLs)  
February 28, 2022

Testimony Submitted by the Committee for Hispanic Children & Families (CHCF)

Thank you to Chair Joseph and the Committee on Education for the opportunity to offer testimony. My name is Danielle Demeuse and I am the Director of Policy for the Committee for Hispanic Children & Families, better known by its acronym, CHCF. CHCF is a non-profit organization with a 40-year history of combining education, capacity-building, and advocacy to strengthen the support system and continuum of learning for children and youth from birth through school-age. We thank you, Hon. Chair Joseph for your leadership and attention to this particular student group and the impact that the pandemic has had on immigrant families and on ELL academic achievement and well-being.

CHCF's direct service programs serve a high number of Limited English Proficient (LEP) families with children, birth through school age, in accessing high-quality care and extended learning spaces that support development – cognitive, social-emotional, and academic – in a culturally and linguistically responsive and sustaining way. Through the pandemic we have seen our communities and families overwhelmed by financial, physical and mental strains, in addition to the challenges and stress faced in trying to successfully navigate their children through virtual education that physically disconnected them from the daily supports of a school-based setting, and then through the transition back to in-person learning while so many health, mental health and academic concerns remained. CHCF worked closely with our school partners to ensure that our services adjusted to meet the needs of the families and children directly enrolled in our programs, as well as to supplement the school's efforts at supporting student and family need school wide.

Given the tremendous scope of rapid response required of the DOE, there were immediate concerns around city-wide, equitable reach of materials, resources, and supports. The barriers that immigrant families and families where parents primarily speak a language other than English typically face were significantly exacerbated with the constant flurry of updates, inconsistencies in rapid translations, and confusion of how to access to real-time information and resources. This truly underscored the value of existing school partnerships with community-based organizations that had long standing relationships and connections to the communities. CHCF has been providing after-school programming in two schools in the Bronx for over 15 years, each year engaging nearly 500 youth in high-quality extended learning time, roughly a quarter of whom are ELLs; fostering academic growth and success, social-emotional development, and college, career and civic readiness. Almost overnight, CHCF, like many Community-Based Organizations working in partnership with schools, rapidly adjusted our service delivery in response to the needs of our students, families, and school communities, and to maintain some semblance of stability in the face of so much uncertainty. Our staff seamlessly transitioned academic supports and enrichment activities to a virtual space and began working with our families to navigate the barriers in access supports and resources. We continue to uplift the importance of the Department of Education and the City Council to take any opportunity to invest in and grow relationships between community-based organizations and school communities to ensure culturally responsive and sustaining, holistic responses to unique community, family, and student needs as we heal from the pandemic, and beyond.



CHCF recognizes the Community Schools model as one such effective model to invest in.<sup>1</sup> Prior to the Department of Education's efforts to consolidate and reduce allocations in multi-school campuses, CHCF had a strong, six-year community school partnership at the Bronx High School of Business, during which time we were able to see tremendous gains in student attendance, school graduation, and college and career readiness.<sup>2</sup> Over one-third of the student population at BHSB are ELLs, many of whom are recently arrived immigrant youth. We had already been delivering culturally and linguistically responsive, wrap-around supports and services to our students and their families prior to the pandemic; and because of the strong relationships we had with the community we were able to rapidly adjust our services to ensure that our students continued to receive the necessary, responsive academic and social-emotional supports, as well as continued access to career and leadership development opportunities. The Community Schools model positively impacts vulnerable student groups beyond those communities with higher rates of immigrant and ELL students<sup>3</sup>, but our example underscores the importance of not only investing in models that strengthen CBO partnerships with schools, but the value of investing in small- or mid-sized organizations that are frequently better positioned to meet the unique needs of specifically immigrant communities and communities where families and students primarily speak languages other than English.

As a member of the New York Immigration Coalition Ed Collaborative, we additionally joined the call to support the First Step Campaign<sup>4</sup>, which seeks to further address a long-standing injustice that was exacerbated during the pandemic – specifically, the impact of the pandemic on older, newcomer immigrant youth access to quality public school programs. While we have noted the systemic isolation and confusion imposed on immigrant families and families where the primary language is other than English, there were many more students and families who were not able to even enroll in school. CHCF received an influx of calls from families facing barriers in navigating city systems and agencies as offices shifted to remote and ability to reach supportive agency staff became next to impossible, even without the added language barriers for parents with Limited English Proficiency. This was absolutely the case with the closure of Family Welcome Centers, a lack of printed materials informing families of their choices in their home language, and the naturally proceeding challenges in successfully enrolling their child in school. For older, newcomer immigrant youth these challenges in entering the education system have taken their toll on current enrollment, especially in school communities that typically serve immigrant and ELL youth. We join our partners in calling on the city to honor its promise to NYC families to not punish schools for pandemic-related enrollment drops. Our current students should not pay the price for the city's broken systems and promises.

New York City must address the long-standing barriers in access for immigrant families and students and invest in the necessary infrastructure to ensure high schools are fully accessible to immigrant families and appropriately resourced to meet their needs. With that in mind, it is critical that we address the DOE funding cuts proposed in the Mayor's preliminary budget. Cutting education funding at a time

---

<sup>1</sup> Community Schools in New York City (2021). Coalition for Community School Excellence. [CCSE information letter - Google Docs](#)

<sup>2</sup> CHCF Youth Development FY 21 One-Pager: <https://tinyurl.com/bde6hfde>

<sup>3</sup> Johnston, W.R., Engberg, J., Opper, I.M., Sontag-Padilla, L., & Xenakis, L. (2020) Illustrating the Promise of Community Schools: An Assessment of the Impact of the New York City Community Schools Initiative. The Rand Corporation. [https://www.rand.org/pubs/research\\_reports/RR3245.html](https://www.rand.org/pubs/research_reports/RR3245.html)

<sup>4</sup> NYC Education Collaborative First Step Campaign





when families and students have faced so many academic and mental health challenges, in addition to exacerbated systemic inequities, contradicts two commitments that Mayor Adams campaigned on: strengthening our education system and improving public safety. We must ensure that funding is not only sustained but, at a time when we are seeing unprecedented levels of state and federal funding, it is critical that we are equitably distributing funds to those schools and students who have been disproportionately under resourced by our existing system, that we invest funds in resources and programs that demonstrably work, and that the city is held accountable for the reach and impact of those dollars.

We are asking that the city baseline and grow the city's investment in the community school model, as well as investments in additional programming that strengthens community-based partnerships with schools – such as after-school (COMPASS, SONYC, Beacon), Learning to Work, Summer Youth Employment, etc. Additionally, we join our NYIC Ed Collaborative partners in call in the city to invest \$2.1 million in the first year and a commitment to support a 3-year \$8.3 million transfer school pilot to increase opportunities and supports specifically for newly arrived, high-school-aged immigrant students. While the city works to address the academic gaps and mental health needs exacerbated by the pandemic, we must recognize programs and models that will especially work to meet the needs of our most vulnerable student populations, including ELLs and particularly the thousands of older, newcomer immigrant youth who have consistently faced barriers in access to programs that meet their needs, even more so during the pandemic.

For any questions about our testimony, please contact Danielle Demeuse at [ddemeuse@chcfinc.org](mailto:ddemeuse@chcfinc.org) or 212-206-1090 ext. 359.

Thank you.

**Testimony re: Budget Hearing - Education**

Submitted to:  
New York City Council Committee on Education

Submitted by:  
Tydie Abreu, Policy Analyst at Hispanic Federation and  
LEAD Coalition, a Project Powered by Hispanic Federation

February 28, 2022

Thank you, Chairwoman Joseph and all other committee members, for the opportunity to provide testimony. My name is Tydie Abreu and I am the policy analyst for Hispanic Federation (HF); a non-profit organization seeking to empower and advance Hispanic communities through programs and legislative advocacy. HF's testimony is also informed by the Latino Education Advocacy Directors (LEAD) Coalition, which consists of leading educational advocacy organizations committed to improving Latinx academic outcomes and opportunities in New York State. Created by the Hispanic Federation, the coalition works to highlight and address the educational needs of Latinx students in the following ways: identifying and supporting effective practice; public policy advocacy and research; and the advancement of a shared educational agenda.

I am here to advocate for Latinx students in New York, who are struggling to face the challenges that COVID-19 has posed to their learning and mental health. As we go into the third year of a global pandemic, we must ensure that English Language Learners have not only the academic supports to ensure their success, but the non-academic supports that will enable their overall achievement and wellness. The pandemic resulted in a teacher shortage that has impacted school resources and a mental health crisis that has gravely impacted ELL students' socio-emotional wellness. A new mayor and new City Council members present a unique opportunity to tackle policies we have yet to address or implement and to make significant investments in our education system to meet the direst needs of our English Language Learners.

## Supports for Multilingual Learners (MLLs)/English Language Learners (ELLs) and Bilingual Teachers

Latinx students, English Language Learners, Multilingual learners, students from mixed status families, and underserved students are still experiencing exacerbated inequities further magnified by the pandemic. The NYC Department of Education has about 142,000 English Language Learners<sup>1</sup> – among the largest populations of ELLs in the country. These students were at a huge disadvantage during full-time virtual learning with the absence of informal opportunities to practice English by listening to and interacting with other students outside of the classroom. Additionally, the non-verbal cues that teachers relied on to understand which students needed additional re-direction and support, was lacking or non-existent during the pandemic with many students having their cameras off during class.

After English, Spanish is the second most spoken language in New York according to the 2020 Census. Failing to invest in multilingual learners will neglect an entire population of students. Additional investments in the city budget can ensure schools provide the additional materials, services, and faculty Multilingual Learners (MLLs) and English Language Learners (ELLs) need for academic success and college and career readiness. This includes consistent interpretation/translation services. A recent data report from the State Education Department highlights that the state experienced a nearly 10% increase in Multilingual Learners over a three-year period.<sup>2</sup> To support these students, it is imperative for New York City to invest in a diverse teacher workforce to meet the needs of multilingual learners. Having more bilingual teachers and instructors willing to assist these students can provide them with alternative learning methods and ways to measure their academic progress. Intentional investments for MLLs/ELLs can provide schools the opportunity for additional professional learning to address the specific needs of MLLs/ELLs including content in home languages. This lends to added parental engagement activities in English and in students' home languages, giving parents guidance on effective strategies to support their children's learning in and out of school.

---

<sup>1</sup> <https://www.nytimes.com/2020/12/29/nyregion/coronavirus-english-language-students.html>

<sup>2</sup> [http://www.nysed.gov/common/nysed/files/programs/bilingual-ed/nysed\\_ell\\_mll\\_data-report\\_2018-2019-a.pdf](http://www.nysed.gov/common/nysed/files/programs/bilingual-ed/nysed_ell_mll_data-report_2018-2019-a.pdf)

### **Mental Health/Socio-Emotional Supports**

As the pandemic continues, the intensity of long-term trauma is still prevalent for many students, but specially for Latinx and underserved students – and ELLs are amongst this population. It is urgent for the city to invest in hiring more staff support and focus on trauma-informed mental health workers for schools. Additionally, the NYC Department of Education must ensure that mental health counselors are trained in culturally relevant and linguistically diverse practices that meets the needs of our students. Access to mental health services and supporting students’ social/emotional wellness improves the odds for children to succeed. This can also make a difference in long-term goals for youth to graduate from high school and have access to postsecondary and career opportunities.

### **Investments for Parent Engagement**

Academic success does not stop in the classroom, therefore it is critical that there are added resources for parent engagement and bridging the gaps for immigrant families and multilingual families as well. An added stressor for students who come from multilingual families is having to translate and communicate the assignments and announcements given by schools. Investments that enable schools to bolster their methods to reach families, particularly undocumented and mixed-status families who historically have been fearful to reach out for support is critical. Acknowledging and supporting the various demographics of families in each school will serve both the student and school by seeing better academic performance and student outcomes. Additionally, since “snow days” will be replaced with virtual learning, indicating that remote instruction is here to stay, it is crucial for parents to be meaningfully engaged in their children’s education. Parent engagement can only be possible with linguistically relevant supports that consider English language barriers that may prevent parents from helping their students academically.

### **American Rescue Plan & The Need For Sustained Funding**

Funds from the American Rescue Plan allowed many schools to allocate resources to mitigate learning loss during virtual learning by strengthening core instruction for all students and plan for targeted interventions for Multilingual Learners and English Language Learners. This includes specific professional learning for bilingual and ENL teachers, including training on modalities to help students with autism like the Applied Behavior Analysis Training. The funding

also allows schools to contract qualified vendors with expertise in ELL students to provide relevant professional learning opportunities. Funds also went towards purchasing texts, curriculum, and other materials to support daily instruction in MLL and bilingual classrooms.

Lastly, the increase in Foundation Aid and the ARP funds have also been utilized to make orders for technology devices, the hiring of social workers, and ELL teachers for summer schools. There is also room to activate the funds as specific needs arise, which is crucial as staff and administrators assess school environments and student needs in this return to full-time in-person learning. This includes requesting funding for additional staff or technology needs.

Although these funds have been recently dispersed, there are concerns about schools' ability to sustain these expanded supports once the American Rescue Plan funds run out since they are one-time funds to be used over the next two and a half years. We ask that the NYC Council continues to prioritize funding for schools to maintain programs that address the deep needs that have arisen from or been further exacerbated by the pandemic. As we recover from the pandemic we continue an uphill battle to address the needs of our students and families, but the city can only recover if we continue to make bold investments in our education. We look forward to working with you and we thank you for reading our statement.

---

**From:** Melissa Keaton <melissakeaton1@yahoo.com>  
**Sent:** Thursday, March 3, 2022 5:00 PM  
**To:** Testimony  
**Subject:** [EXTERNAL] 2/28 Education Committee meeting on

Hello City Council Education Committee,

Hi my name is Melanie. I'm nine years old and i'm in the 4th grade. Today I want to talk about being remote. What I like about doing remote work? I feel safe, i'm doing my work, and I don't have to wake up at 6:00 a.m and get on the trains to go to to school. I don't want to be afraid if someone is not wearing their mask and I want to be safe, healthy, and strong. If I have a moment I can take a break and talk to my Mom and Dad. When I go out I wear my mask to be safe. If I go to school now I won't feel safe because some people won't be wearing their mask.

Melanie

My daughter is enrolled in a Dual Language program. The premise behind the program is that 50% of the students are native speakers and the other half are non native speakers of the target language. As a result of the lack of a curriculum the programs are not consistent across the city. That is reflected in the admission and enrollment data. When I applied for a program in Brooklyn my daughter was wait listed at over 100. When she attended kindergarten at her school in Manhattan there were only 15 students in her class. The other DL program in her school is thriving. However, they also have more staff members who can provide translations services in the main office, PTA, communication to parents, and identifying with cultural norms. Some schools are little more lenient with the 50/59 requirement because lowered enrollment means less funding and that doesn't benefit anyone.

Since first grade her classes were bridged with two grades. Think of the level of differentiated instruction for ELL's in two grades (i.e 1st/2nd grade) as well as non native speakers in two grades, all taught by one teacher!! When students struggled an evaluation is suggested or moving your child to general education. Last year during remote instruction the schedule was changed so the teacher for math and English did not speaker the target language. How can the teacher assist ELL's in that setting? Students and their families need consistency and support. The lack of assistance affects ELL'S, their classmates, and the school community that works to welcome and support them.

We all know students were having issues with obtaining devices, lack of technology skills, and language barriers. We also have students who are living in shelters, those who have lost family members due to Covid (my daughter is one of them) and we just sent them back to school without addressing the mental health aspect of their lives. With the mask mandate removal this only adds to fear and anxiety. This is why I will continue to work from home with my daughter. I can't disregard my families physical and mental health. With the hope that consideration will be afforded to families who have been impacted and have high risk family members at home.

Thank you

Melissa Keaton



**The New York City Council  
Committee on Education  
Oversight Hearing –COVID Impact on English Language Learners  
February 28, 2022  
Written Testimony Submission from Legal Services NYC**

**Introduction**

Good afternoon and thank you for the opportunity to testify regarding learning loss and other struggles for English Language Learners and Limited English Proficient students and their families during the COVID-19 pandemic.

Legal Services NYC (LSNYC) is the largest provider of free civil legal services in the country. We are dedicated to fighting poverty and seeking racial, social, and economic justice for low-income New Yorkers. Over the course of fifty years, LSNYC has challenged systemic injustice and helped clients meet their basic needs for housing, access to high-quality education, health care, family stability, and income and economic security. Through litigation, advocacy, education, and outreach, we work to protect the rights of immigrants, veterans, the LGBTIQ+ community, people with disabilities, and other vulnerable constituents. Our neighborhood-based offices and outreach sites across all five boroughs assist more than 100,000 New Yorkers annually.

The Education Rights practice at LSNYC assists hundreds of New York City schoolchildren and their families each year to ensure access to education. We support English Language Learners (ELLs), limited English proficient (LEP) students their parents, and other vulnerable student populations and their families with a host of education issues



including school enrollment, language access, special education, disciplinary proceedings, transportation, disability accommodations, and academic intervention services. Over 80% of our student clients are children of color and/or immigrants ranging in age from 3 to 21. Our clients experience a range of behavioral, emotional, and developmental disabilities including autism, attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), the disabling impacts of trauma/adverse childhood experiences (ACEs), and depression. Our goal is to assist ELL and LEP students, along with other vulnerable populations, to improve educational outcomes and to target and fight systemic inequities. We train, assist, and collaborate with community-based organizations, pro bono attorneys, and elected officials to broaden our impact. In 2021, LSNYC founded the Healing-Centered Schools Task Force, a coalition of parents, students, educators, advocates, and mental health providers working to bring trauma-informed, healing-centered practices NYC schools.<sup>1</sup> We also coordinate a Citywide Educational Law Task Force for educational advocates, and participate in a number of other task forces and coalitions to increase our understanding of the needs of low-income students and to more broadly and collaboratively address individual and systemic issues facing English Language Learners and the other student populations that we serve.

### **Disparate Negative Impacts of COVID-19 for ELLs and LEP families**

The COVID-19 pandemic has laid bare the racial and socio-economic inequities that exist in our society – including in our city’s education system. Many low-income immigrant

---

<sup>1</sup> Community Roadmap to Bring Healing-Centered Schools to the Bronx, Legal Services NYC, <https://www.legalservicesnyc.org/what-we-do/practice-areas-and-projects/access-to-education/community-roadmap-to-healing-centered-schools> (last visited Feb. 26, 2022).

families suffered high rates of food insecurity, job loss, sickness and death due to COVID. ELL and LEP students, many of whom are people of color, have also had to grapple with highly publicized instances of systemic racism and violence. Some of our clients, who had already experienced violence and trauma in New York or in their native countries experienced heightened anxiety, stress and even additional trauma. Tragically, these vulnerable families frequently were shut out of important supports and services for their children at high rates due to the systemic technological divide and language access and communication failures. LSNYC has taken on a number of individual cases as well as group litigation to combat inequities exacerbated by the COVID-19 pandemic.

Since schools initially closed in March 2020 and throughout the COVID-19 pandemic, our Education Rights work has focused on helping our clients navigate the challenges of remote and blended learning, helping families access internet, learning devices, and necessary technology, and otherwise protecting the rights of students in kindergarten through 12th grade to receive an education during COVID-19 related school closures. As early as December 2020, reports emerged suggesting that lack of technological devices, inconsistent internet access, and the absence of live instruction from teachers had set students back academically during COVID-19 an average of five to nine months.<sup>2</sup> Students in vulnerable populations who did not have access to remote learning devices or

---

<sup>2</sup> Emma Dorn et al., COVID-19 and learning loss-disparities grow and students need help McKinsey & Company, Dec. 8, 2020, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help> (last visited Feb. 26, 2022).

reliable internet and families with low technological expertise were especially adversely affected.<sup>3</sup>

Low-income English Language Learners (ELL) and limited English proficient (LEP) students suffered higher rates of learning loss due to the digital divide. Statistically, these immigrant families are less likely to have access to computers and high-speed internet and have overall lower digital skills and training than their English-fluent counterparts.<sup>4</sup> Moreover, students from households where English is not the primary language experienced additional learning loss and academic setbacks due to NYC DOE's inadequate interpretation and translation services for limited English proficient parents. Indeed, ELL and LEP families with whom we work frequently complain that they never or rarely receive communication or correspondence in their preferred languages, and they rarely receive interpretation and translation services from their children's schools. This made it considerably more difficult for them to support their children's learning during a time when parents and computers had to fill the roles of teachers and books. This lack of language services also made it difficult or impossible for ELLs and their LEP parents to receive important information, get in touch with teachers and services providers, and communicate

---

<sup>3</sup> Digital and Economic Divides Put U.S. Children at Greater Educational Risk During the COVID-19 Pandemic, <https://www.prb.org/resources/economic-and-digital-divide/> (last visited Feb. 26, 2022).

<sup>4</sup> Alexis Cherewka, The Digital Divide Hits U.S. Immigrant Households Disproportionately during the COVID-19 Pandemic, Sept. 3, 2020, <https://www.migrationpolicy.org/article/digital-divide-hits-us-immigrant-households-during-covid-19>; see also Office of the Comptroller of the City of N.Y., Overcoming NYC's Digital Divide in the 2020 Census at 5 (July 2019), [https://comptroller.nyc.gov/wp-content/uploads/documents/Census\\_and\\_The\\_City\\_Overcoming\\_NYC\\_Digital\\_Divide\\_Census.pdf](https://comptroller.nyc.gov/wp-content/uploads/documents/Census_and_The_City_Overcoming_NYC_Digital_Divide_Census.pdf) ("2019 Comptroller Report") (last visited Feb. 26, 2022).

with schools about missed IEP services, the need for compensatory supports, and other concerns.

### **Our Clients' Stories**

One example of this is our client, J.J., who is an ELL, and his mother H.A., whose primary language is Bengali. J.J. was in kindergarten when schools first closed due to COVID-19. His family did not have a computer or device for him to use to access remote learning, so his mother requested one from the school. Unfortunately, the device took a while to arrive, and when it did arrive, the connection to the internet was often spotty. On top of this, the only instructions H.A. and J.J. received on how to connect to the remote learning platforms and participate in lessons were in English, so even when the school-provided device was working, H.A. was not always able to help J.J. access his classes. This continued during the 2020-2021 school year, when the school-provided iPad became even less functional and H.A. could not get technical support or remote learning and other COVID information in Bengali. Now, J.J. has fallen far behind in his reading and writing and his grades are low. As noted in a December 2020 New York Times article, “While the disruptions of 2020 have threatened learning loss for nearly all students across the country, the toll has been especially severe for students who come from immigrant homes where English is rarely if ever spoken.”<sup>5</sup> In addition to in-class instruction, ELL students such as J.J. learn from speaking and interacting with their peers and observing how peers and teachers respond to language cues. So much of this is lost during remote learning. Thus, the

---

<sup>5</sup> Juliana Kim, “With Remote Learning, a 12-Year-Old Knows Her English Is Slipping Away,” New York Times, Dec. 29, 2020, <https://www.nytimes.com/2020/12/29/nyregion/coronavirus-english-language-students.html> (last visited Feb. 26, 2022)

realities of the digital divide coupled with his status as an ELL has meant that, between technological issues and language barriers, J.J. often missed out on his lessons entirely.

Indeed, most parents who did not already have the technology and digital literacy to access the online platforms necessary for remote instruction have struggled to receive information they need regarding their children's education and have struggled to communicate with teachers, mental health counselors, and school administrators during this time. The systems these students should be able to interact with have been overwhelmed and continue to be ill-equipped to meet ELLs and LEP families with understanding, empathy, and flexibility necessary to accommodate students severely impacted by the effects of the pandemic. Now, in the third year of the pandemic, many of these families and children continue to have significant barriers to accessing remote learning and to understanding the academic content. These students have fallen behind and require systems in place to ensure they receive compensatory services and support, along with free and functioning computers, free internet, and other necessary technology.

Take, for example, our client J.S., who is currently a second-grade student with special needs. After struggling with remote learning without a working computer during the 2019-20 school year, the then six-year-old J.S. and his LEP parent, A.L, had hoped that the 2020-2021 school year would be better. J.S. was placed in a NYS approved non-public school for students with learning and behavioral issues and told that he could attend the school five days per week in person. Due to staffing shortages and an inability to comply with the student's IEP mandates, the school refused to allow J.S. to attend in person. Consequently, he was forced to attend school remotely from September 2020 through most of January 2021. Although J.S.'s mom made many requests for a remote learning device,

she waited for months to receive one, and when it finally arrived, it did not function properly. A.L. also had to purchase internet services, which posed a financial hardship for her. Even with internet, her child's learning device regularly malfunctioned and J.S. lost out on learning and mandated special education services. LSNYC filed an impartial hearing demand and helped the family to receive compensatory educational services including tutoring, make up services for missed speech and language, and occupational services, and various independent educational evaluations to better assess J.S.'s needs going forward.

### **Ongoing Adverse Impacts of COVID and Need for Better Systems and Interventions**

With the resurgence of the pandemic this school year due to Omicron and other COVID-19 variants, the integration by New York City public schools of remote learning on snow days and during other school closures, and the increased reliance on technology for remote learning and education, generally, it is clear that systems must be put into place to ensure that students like J.J. and J.S. are able to access all of the educational services to which they are entitled. The DOE must take concrete steps to bridge the digital divide and to ensure that all students have functioning devices, high speed internet and training and support to ensure remote access capability.

To that end, LSNYC, along with co-counsel, recently filed a lawsuit in New York State Supreme Court to demand that the New York City Department of Education (NYC DOE) and New York State Education Department establish effective systems to ensure that no student is denied their constitutionally-mandated education, and that all students can fully participate in remote learning, that families have access to the devices and internet required for schooling at no cost, and that all students who need it receive compensatory education

services to address learning loss during the pandemic.<sup>6</sup> We are also currently litigating against the NYC DOE in federal court to ensure regular and consistent translation and interpretation services for ELL and LEP students.

Although we are seeking redress for our clients and students like them through litigation, there are many things the City Council and the NYC DOE could do to improve access to education for ELLs and all low-income public-school students. Specifically, these students would benefit from programs designed to:

1. Address and eliminate the digital divide so that all low-income families, including low-income ELL and LEP students, have access to free computers and free high-speed internet to ensure equitable access to learning.
2. Assess the need for compensatory education, including AIS, among all public-school students, but particularly ELLs and students from LEP families, and develop an expedited process for remedying the lost educational opportunity students have suffered during COVID-19.
3. Develop an effective system to ensure that families of ELL students or with LEP parents receive pertinent information about remote learning and other educational access in their preferred language.

## **Closing**

In closing, we thank the Education Committee for holding this oversight hearing and for providing a space for the public to testify about the impact of COVID on English

---

<sup>6</sup> See *S.M. v. Hochul*, Index. No. 161610/21, New York Supreme Court, Summons & Complaint available at <https://iapps.courts.state.ny.us/fbem/DocumentDisplayServlet?documentId=BGlowWN7bmCgzixgl4ar2A==&system=prod> (last visited Feb. 26, 2022).

Language Learners. With more than three million foreign born residents from more than 200 different countries, New York City has one of the most diverse populations in the world. According to the Department of City Planning, more than 1.8 million people in NYC are not English proficient.<sup>7</sup> New York City public schools have nearly 370,000 students whose families speak a language other than English at home, and there are over 140,000 students who identify as English Language Learners.<sup>8</sup> It is unjust for ELLs and students from LEP families to be denied equal access to an education. New York City must figure out a way to make sure these students aren't left behind, especially during these tumultuous times.

Respectfully submitted,

Tara Foster  
Senior Attorney  
Legal Services NYC  
Telephone: 347-592-2234  
Email: tfoster@lsnyc.org

---

<sup>7</sup> City Planning, NYC.gov, <https://www1.nyc.gov/site/planning/about/language-access.page> (last visited Feb. 26, 2022).

<sup>8</sup> 2020-21 ELL Demographics At-a-Glance (nyced.org), <https://infohub.nyced.org/docs/default-source/default-document-library/sy-2020-21-ell-demographics-at-a-glance.pdf> (last visited Feb. 26, 2022).