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# Analyzing Trends in the Global Surge of Coronavirus Disease 2019 Pandemic Submissions to *The Journal of Pediatrics*

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During February to December 2020, there were 498 coronavirus disease 2019 (COVID-19) pandemic-focused brief report and original article submissions to *The Journal of Pediatrics*. The majority were from international authors (68.1%). Early in the pandemic, geographic origin of the corresponding author paralleled the path of COVID-19 infection both within the US and around the globe. (*J Pediatr* 2021;233:273-6).

Scientific journals have been inundated with article submissions during the coronavirus disease 2019 (COVID-19) pandemic.<sup>1</sup> As we demonstrated in our previous work,<sup>2</sup> submissions of original articles to *The Journal of Pediatrics* rose more than 60% in April and May of 2020 compared with April and May of 2019, with roughly one-quarter of the additional submissions being pandemic-focused research. The influx of COVID-19 research submissions during the pandemic presents a demanding challenge for editorial boards and reviewers to rapidly triage and review manuscripts with potentially novel information with immediate implications. Journal publication ethics requires steadfast responsibility to peer review to ensure quality research.<sup>3</sup> *The Journal of Pediatrics* has publicly described these challenges and its commitment to an expedient yet thorough peer-review process.<sup>4,5</sup>

We sought to analyze the geographic origin of pandemic-focused articles that have been submitted to *The Journal of Pediatrics* to better understand national and international trends.

## Methods

We were granted access to all COVID-19 pandemic-focused submission data to *The Journal of Pediatrics* from February to December of 2020 and all submission data from February to December 2019 for comparison. Pandemic-focused submissions were identified by searching article titles and author-submitted key words for the following terms: “COVID-19,” “SARS-CoV-2” (ie, severe acute respiratory syndrome coronavirus 2), “coronavirus,” or “pandemic.” We analyzed the final dispositions for these submissions and made country-of-origin comparisons of the corresponding author, because *The Journal of Pediatrics* retains this information for all corresponding authors (of both manuscripts accepted and rejected) but does not retain this information for first authors whose manuscripts were rejected. To classify US geographic trends, we used census regions of West, Midwest, and South

and subdivided the North East region into the 2 census divisions Middle Atlantic and New England to provide more granularity, as that area was severely impacted by the pandemic early, represents a large number of medical centers, and had a significant number of article submissions.<sup>6</sup> We focused in particular on the 2 most prevalent article types: original articles and brief reports. Original articles are full-length manuscripts, whereas brief reports include studies with a single hypothesis, a small series of diagnostic or therapeutic interventions, and/or “case reports.”<sup>7</sup>

For comparisons of the proportion of article types submitted and acceptance rate, we analyzed brief reports and original articles submitted from February to December 2019, 1 year before the pandemic-studied period. There were 3 manuscripts from the pandemic studied period without a disposition that were still included in the analysis. We used the Pearson  $\chi^2$  tests and Fisher exact tests for comparisons. Significance was set at  $P = .05$ .

## Results

From February to December of 2020, researchers from 51 nations submitted 498 pandemic-focused submissions to *The Journal of Pediatrics*, including 272 brief reports (54.6%) and 226 original articles (45.4%). There were an additional 76 other submissions related to COVID-19: 39 letters to the editors, 15 commentaries, 9 insights and images, 12 special section articles, 1 medical progress article, and 1 reply to a letter to the editors, none of which were further analyzed. The percentage of pandemic-focused submissions described as brief reports (54.6%) was significantly increased from

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COVID-19 Coronavirus disease 2019  
 SARS-CoV-2 Severe acute respiratory syndrome coronavirus 2

February to December 2019, when brief reports represented 16.5% of submissions ( $P < .00001$ ). The majority of pandemic-focused brief report and original article submissions (68.1%) were from international authors, which was increased from 62.1% of all submissions of the same article types by international authors from February to December of 2019 ( $P = .012$ ). For international authors, the ratio of pandemic-focused brief reports to original articles was 1.1, which was significantly lower compared with the ratio of pandemic-focused brief reports to original articles of 1.6 for US authors ( $P < .05$ ).

**Figure 1** groups countries by regions and displays how submissions of brief reports and original articles spiked regionally as the pandemic travelled across the globe. The **Table** enumerates the countries in each region and also provides information about the number of submissions and the acceptance rate for each type of article by region. The first pandemic-focused submission was an original article by Chinese authors submitted February 13, 2020. Chinese researchers led the first wave of submissions, with 7 in March. Next, Europe rose to prominence, with Italian researchers accounting for 14 submissions in April and 13 in May. In the summer, the US had the largest number of submissions, with 18 in June and 23 in July.

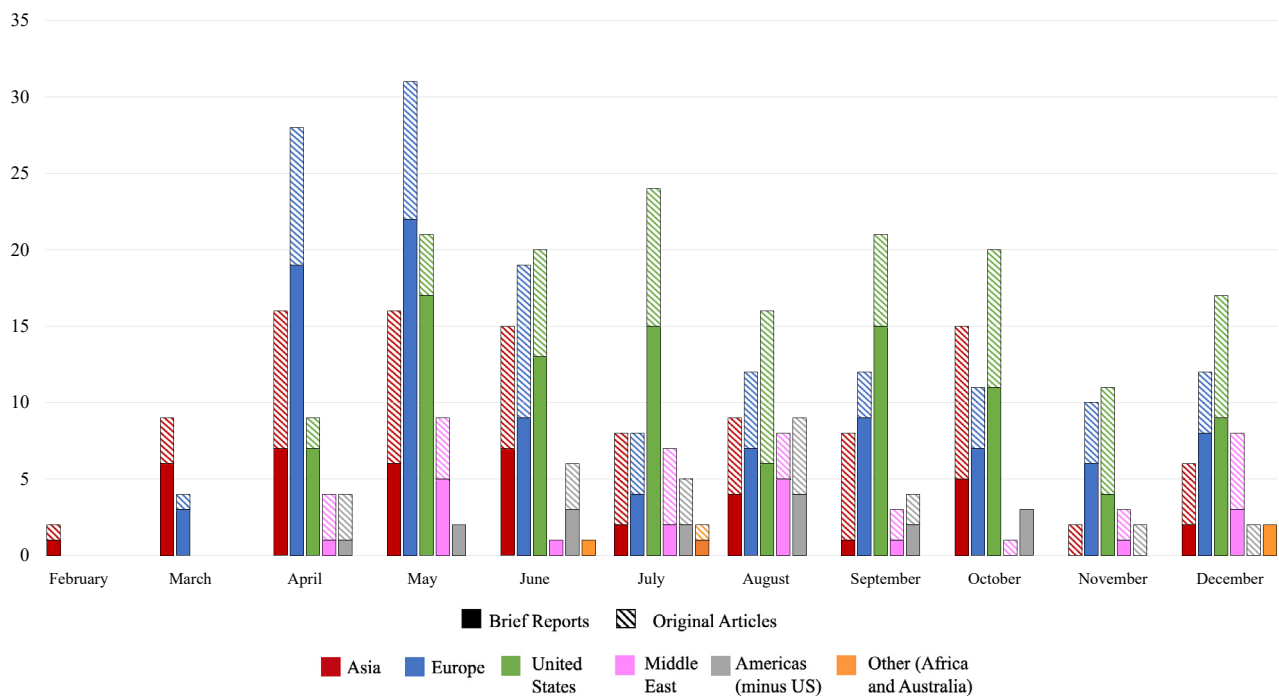
**Figure 2** (available at [www.jpeds.com](http://www.jpeds.com)) documents how submissions from the US similarly spiked regionally as the virus spread domestically. The first US submission was April 4, 2020, from California, followed by 3 more submissions from the West region in the next 10 days.

April 15 was the date of the first submission from New York and during April, the remainder of submissions were from New York and Washington, DC. In May and June, the Middle Atlantic, which includes New York, was responsible for the lion's share of submissions. From October to December, the contribution of research appears evenly distributed geographically.

Pandemic-focused brief reports and original articles were accepted at a similar rate ( $P = .10$ ). Brief reports were accepted at a similar rate in the pandemic-studied time compared with brief reports of all topics between February and December 2019 for both international authors (3/175, 1.7% vs 12/272, 4.4%,  $P = .18$ ) and US authors (11/97, 11.3% vs 28/195, 14.4%,  $P = .48$ ). International authors' pandemic-focused original articles were less likely to be accepted for publication compared with original articles of all topics submitted in February to December 2019 (3/164, 1.8% vs 95/1180, 8.1%,  $P = .002$ ), whereas US authors' pandemic-focused original articles were accepted for publication at a similar rate to original articles of all topics submitted July to December 2019 (17/62, 27.4% vs 216/699, 30.9%,  $P = .57$ ).

### Discussion

The number of manuscripts submitted for publication relating to a single topic—namely the COVID-19 pandemic—has been unprecedented. Using the key words COVID-19 and SARS-CoV-2 yielded more than 46 000 entries on OVID/Medline



**Figure 1.** COVID-19 pandemic-focused original article and brief report submissions from February 1, 2020, to December 31, 2020, by global region.

**Table. Country of origin for pandemic-focused original articles and brief reports submitted and accepted**

Region/country (no. Submissions): Countries (no. Submissions)	Brief reports		Original articles	
	Submitted, no.	Accepted, no. (%)	Submitted, no.	Accepted, no. (%)
Total (498)	272	14 (5.1%)	226	20 (8.8%)
Europe (148): Austria (1), Belgium (4), Czech Republic (1), Denmark (3), Finland (1), France (18), Germany (4), Greece (3), Ireland (1), Italy (61), Luxembourg (1), Netherlands (3), Poland (4), Portugal (3), Romania (3), Spain (22), Sweden (1), Switzerland (2), United Kingdom (12)	95	1 (1.1%)	53	1 (1.9%)
United States (159)	97	11 (11.3%)	62	17 (27.4%)
Asia and South Asia (90): Bangladesh (1), China (60), Hong Kong (1), India (8), Japan (8), Kazakhstan (1), Republic of Korea (2), Singapore (6), Taiwan (2), Vietnam (1)	31	2 (6.5%)	59	1 (1.7%)
Middle East (59): Egypt (4), Iran (12), Israel (15), Jordan (1), Kuwait (1), Qatar (1), Saudi Arabia (4), Turkey (20), United Arab Emirates (1)	28	0 (0.0%)	31	0 (0.0%)
North, South, and Central America (excluding US) (37): Barbados (1), Brazil (20), Canada (8), Chile (1), Colombia (2), Dominican Republic (2), Mexico (3)	17	0 (0.0%)	20	1 (5.0%)
Other (Africa and Australia) (5): Australia (2), Libya (1), Niger (1), Tunisia (1)	4	0 (0.0%)	1	0 (0.0%)

on January 16, 2021. The workload on journals has been heavy, as that number does not include manuscripts that were rejected or reviewed by more than 1 journal. As Welch and other leaders of *The Journal of Pediatrics* wrote: “Through extraordinary effort, *The Journal of Pediatrics*’ staff, expert reviewers, editors, and publishers have expedited exposure of new data while attempting to preserve their first core responsibility—scientific validity.”<sup>4</sup> One negative effect of expedient peer review has already manifested, with preliminary reports of SARS-CoV-2 failing to account for the novel associated multisystem inflammatory syndrome in children in both *The Journal of Pediatrics* and elsewhere, which may require reclassification and revisions or even repeated publications based on the same data.<sup>4</sup> A more serious risk is compromised datasets or analyses leading to retractions from *The New England Journal of Medicine* and *The Lancet* and more than 17 other published articles and 14 preprint articles.<sup>8</sup> *The Journal of Pediatrics* has notably not had to retract any pandemic-focused research that it has published.<sup>5</sup>

The region-of-origin of submissions of COVID-19 pandemic-focused articles to *The Journal of Pediatrics* followed the global spread of COVID-19.<sup>9</sup> In 2019, the majority of submissions of brief reports and original articles were from international authors, a percentage that increased for pandemic-focused submissions. A more significant change was the increase in proportion of submissions that are brief reports vs original articles. The similar acceptance rate for pandemic-focused brief reports, as well as the slightly lower acceptance rate of pandemic-focused original articles by international authors compared with brief reports and original articles by international authors in 2019, attests to the commitment of *The Journal of Pediatrics* to foster timely sharing of information with judicious peer review during the pandemic.<sup>4</sup>

US submissions to *The Journal of Pediatrics* similarly mirrored the spread of the virus in the US.<sup>10</sup> Although US pandemic-focused submissions began later, they have been more numerous in part because of the number of cases and deaths,<sup>11</sup> and the amount of US government funds being

invested into COVID-19 research.<sup>12</sup> Pandemic-focused brief reports and original articles by US researchers have been accepted at a similar acceptance rate compared with all brief reports and original articles by US researchers in 2019, again attesting to a strict peer-review.

A limitation of our study is that these data reflect the experience of only one journal. We do not have access to all submissions, both those accepted and rejected, from other journals so we cannot say whether this finding is generalizable. Despite this, we believe these data provide important information about how the scientific and medical communities effectively and rapidly share what is known and what has been tried to improve the health of individual patients and the community-at-large.

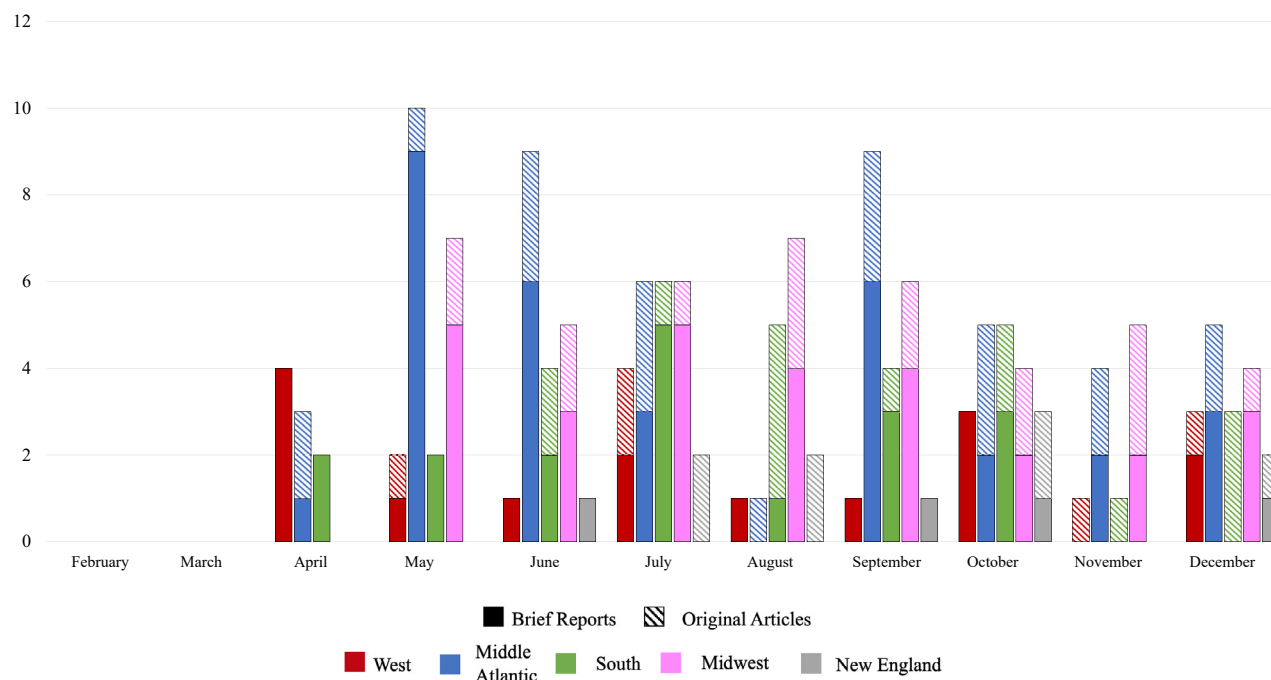
With the changing COVID-19 landscape due to the US setting new single-day case records in the fall,<sup>13</sup> a second wave of infections in the Europe,<sup>14</sup> and the approval of effective vaccines for adults with plans for vaccine testing in children,<sup>15</sup> there will continue to be a need for COVID-19 pandemic-focused pediatric research submissions focused on the science and clinical implications. There will also be a need to research the far-reaching ramifications of the pandemic on children due to familial financial insecurity both in the US and abroad, school disruption and its impact on education and food security, and the reduction of childhood immunizations for vaccine-preventable diseases globally due to transport interruptions, fear of being exposed to people with COVID-19, redeployment of healthcare workers to COVID-19 response duties, and shelter-in-place restrictions on movement.<sup>16,17</sup> Pandemic-focused research must address both the direct and indirect impact of the pandemic on all children, and the extent to which the pandemic exacerbates healthcare disparities. The continued high-volume, diverse types of pandemic-focused submissions to pediatric journals for the foreseeable future will require rapid and diligent peer review. ■

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**Figure 2.** COVID-19 pandemic-focused original article and brief report submissions from February 1, 2020, to December 31, 2020, by US region or division.