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## Buprenorphine Treatment: Advanced Practice Nurses Add Capacity

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### Abstract

During the COVID-19 pandemic, there was slower growth in the number of new waivers authorizing clinicians to provide buprenorphine treatment for opioid use disorder. However, treatment capacity grew at a stable rate as a result of already authorized clinicians obtaining waivers for larger patient panels. Advanced practice nurses accounted for the largest portion of capacity growth during the pandemic.

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Opioid overdose deaths have soared during the COVID-19 pandemic, with more than 80,000 opioid-related deaths in the US in 2021 alone.<sup>1</sup> Increasing access to buprenorphine treatment is a key component of policies to mitigate the opioid epidemic.<sup>2</sup> To prescribe buprenorphine in an office-based setting, clinicians must obtain an “X waiver” that exempts them from the requirement that opioid agonist and partial-agonist medications used to treat opioid use disorder (methadone and buprenorphine) be administered by a licensed treatment program. During the pandemic, efforts to mitigate difficulties accessing buprenorphine treatment included emergency authorization of telehealth for buprenorphine prescribing, offering mail-based services and home delivery, and suspending mandatory urine drug testing; these emergency provisions will expire without legislative or regulatory changes.<sup>3</sup> In addition, Drug Enforcement Administration (DEA) guidelines issued in April 2021 relaxed there

quirement that clinicians complete training before applying for a waiver to treat thirty or fewer patients.<sup>4</sup> As seen in exhibit 1, despite these efforts, growth in the Percentage of clinicians with waivers slowed during the pandemic, particularly for physicians.<sup>5</sup>

Opioid treatment capacity has fallen short of need for decades. The Drug Addiction Treatment Act of 2000 expanded access to buprenorphine by establishing the X-waiver program. To address continuing shortages of buprenorphine prescribers, federal legislation passed in 2016 and 2018 authorized advanced practice nurses (APNs) and physician assistants (PAs) to obtain waivers.<sup>6,7</sup> During their first year with a waiver, clinicians are allowed to treat up to thirty patients concurrently; they can apply to treat 100 patients after the first year and can increase their panel from 100 to 275 patients if they hold board certification in addiction medicine or addiction psychiatry or if they practice in settings with twenty-four-hour coverage and case management services.<sup>8</sup>

In this article we describe changes in the size, composition, and potential treatment capacity of the X-waivered workforce before and during the COVID-19 pandemic. This detailed information can help identify opportunities to expand treatment access.

## Study Data And Methods

We obtained quarterly DEA Registrant Files from the second quarter (Q2) of 2018 (ending June 30) through Q1 of 2022 (ending March 31). The data included all clinician registrations to prescribe or furnish controlled substances and indicated clinician type (physician, APN, or PA), whether the registration included an X waiver, and the number of patients authorized by the waiver (30, 100, or 275). Clinicians must have a registration for each of the sites at which they prescribe controlled substances, and some have more than one registration.

For each quarter, we measured the size and growth of each waived clinician pool and the maximum number of patients allowed. We calculated the percentage of registrations for which there was a waiver. We calculated the numbers of new thirty-patient waivers, net of lapsed DEA registrations, and the numbers of waivers shifting from 30 to 100 patients and from 100 to 275 patients, net of lapsed registrations. Our tabulations did not specifically identify lapsed registrations, which are generally due to retirement.

We calculated potential treatment capacity if all clinicians were to treat the maximum number of patients allowed by their waivers, and we measured quarterly growth in potential treatment capacity. We used *t*-tests to determine whether quarterly growth rates in numbers of waivers and potential treatment capacity were significantly different at  $p < 0.05$  in the pre-pandemic versus pandemic periods. The COVID-19 pandemic period started in the US in 2020 Q2. The period after DEA training requirements were relaxed started in 2021 Q2.

This analysis had several limitations, the most important being that the data included all waived clinicians regardless of whether they prescribed buprenorphine to the maximum level authorized. It has been reported that 24.5 percent of clinicians who were newly waived in 2017 had not prescribed buprenorphine by early 2018.<sup>9</sup> An analysis of pharmacy transactions found that 22 percent of buprenorphine prescribers had three or fewer patients per month.<sup>10</sup> Thus, treatment capacity calculations overestimate the actual availability of

buprenorphine services. A second limitation was that we did not attempt to identify unique clinicians, as some names are common, and attempts at deduplication are likely to have many errors. Third, we did not have data on numbers of lapsed DEA registrations, so we thus report net growth. Fourth, we did not include licensed opioid treatment programs in our measurement of access to services. Finally, we could not distinguish each APN type.

## Study Results

There were 1,193,201 DEA registrations held by physicians in 2018 Q2 and 1,264,012 in 2022 Q1. At these same times, there were 222,844 and 321,481 registrations held by APNs and 108,546 and 141,498 registrations held by PAs, respectively (data not shown).

As seen in exhibit 1, a greater percentage of APNs had waivers in 2022 Q1 (8.5 percent) than either physicians (5.8 percent) or PAs (5.3 percent). There were a total of 47,910 X waivers in 2018 Q2: 40,403 physicians, 5,937 APNs, and 1,570 PAs (exhibit 2). By 2020 Q1 these numbers had increased to 77,547: 57,731 physicians, 15,724 APNs, and 4,092 PAs.

exhibit 3 presents average quarterly growth in the number of waivers in the prepandemic and pandemic periods for each waiver size and clinician type. Note that total waiver growth equals the net number of 30-patient waivers; growth in 100- and 275-patient waivers comes from clinicians who already had 30-patient waivers. Total quarterly waiver growth averaged 4,234 waivers in the prepandemic period and 4,539 in the pandemic period ( $p = 0.57$ ). A small, statistically insignificant increase in new waivers was observed for all three clinician types, with physicians' average quarterly growth increasing from 2,475 to 2,596 ( $p = 0.696$ ), APNs' from 1,398 to 1,501 ( $p = 0.573$ ), and PAs' from 360 to 442 ( $p = 0.235$ ). Waiver growth increased after the relaxation of DEA training requirements, with average quarterly growth starting 2021 Q1 at 4,920 overall (2,864 for physicians, 1,557 for APNs, and 499 for PAs; data not shown). For all three clinician types, the numbers shifting from 30- to 100-patient waivers were significantly higher during the pandemic than prepandemic (exhibit 3). A significantly larger number of APNs obtained 275-patient waivers during the pandemic compared with prepandemic, whereas a significantly smaller number of physicians did so.

In 2018 Q2, clinician waivers authorized treatment for up to 3.09 million US patients concurrently (exhibit 4). By 2022 Q1, treatment capacity reached 7.22 million patients. As seen in exhibit 5, treatment capacity growth per quarter averaged 234,856 patients during the prepandemic period and 311,533 patients during the pandemic ( $p = 0.55$ ). The sustained growth in treatment capacity evident in exhibit 5 was the result of clinicians shifting to larger authorized patient panels and stable growth in the numbers of clinicians obtaining new waivers. A growing proportion of treatment capacity came from APNs (exhibit 6), as they obtained new waivers and shifted to 100- and 275-patient waivers. In 2018 Q2 APNs accounted for only 6.8 percent of treatment capacity, but they reached 26.9 percent by 2022 Q1. PAs accounted for 6.9 percent of treatment capacity in 2022 Q1, up from 1.9 percent in 2018 Q2.

## Discussion

In the context of rising opioid overdoses, buprenorphine treatment capacity increased notably during the pandemic. However, growth during the COVID-19 pandemic was driven by already waived clinicians shifting from 30-patient waivers to 100- and 275-patient waivers; net growth in the number of new waivers did not change significantly, even with the relaxation of training requirements. Future research should seek to understand the factors that facilitated already-waivered clinicians increasing their panel sizes.

APNs accounted for the largest contribution to treatment capacity growth during the pandemic. Multiple studies have found that the extension of waivers to APNs and PAs improved access to buprenorphine,<sup>11</sup> particularly in rural communities.<sup>12,13</sup> Newly waived rural APNs are more likely than rural physicians to prescribe buprenorphine,<sup>14</sup> and waived APNs are more likely than physicians to prescribe buprenorphine to Medicaid enrollees.<sup>15</sup> However, many states restrict the practice of APNs by requiring physician oversight, which is associated with slower APN waiver growth<sup>11,16,17</sup> and less buprenorphine prescribing.<sup>18,19</sup> It is noteworthy that APN and PA treatment capacity has continued to rise rapidly despite regulatory barriers.

Many X-waivered clinicians do not prescribe buprenorphine for the maximum number of patients allowed.<sup>9,10</sup> It has been estimated that more than 2.2 million people needed opioid use disorder treatment in 2019, but only one in four received it.<sup>20</sup> Policy and practice leaders need to support growth in the buprenorphine-prescribing workforce and to facilitate clinicians prescribing to the maximum level allowed.

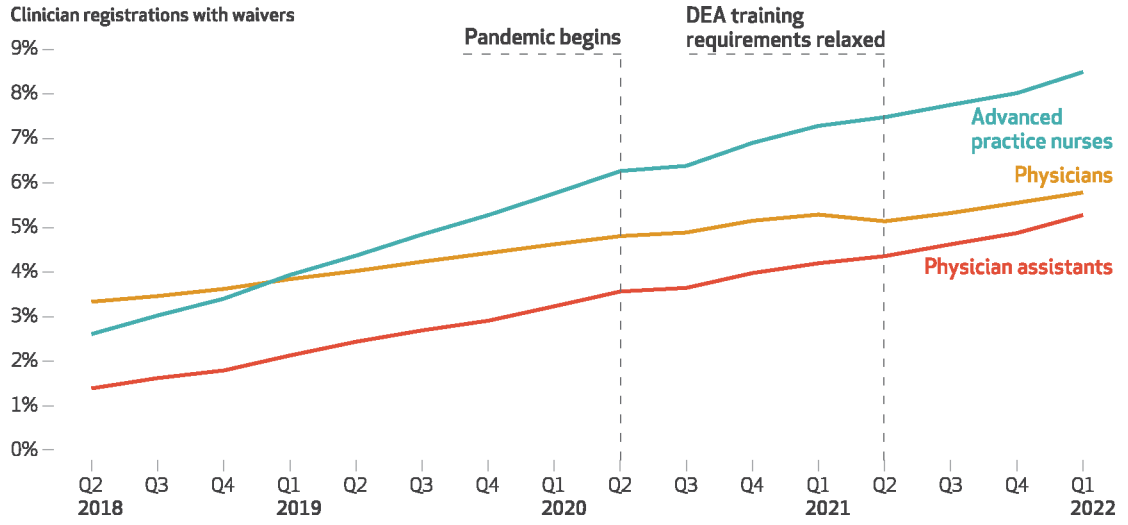
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## NOTES

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**EXHIBIT 1. Percent of clinician registrations with waivers allowing buprenorphine prescriptions in office-based settings, by clinician type, 2018–22**

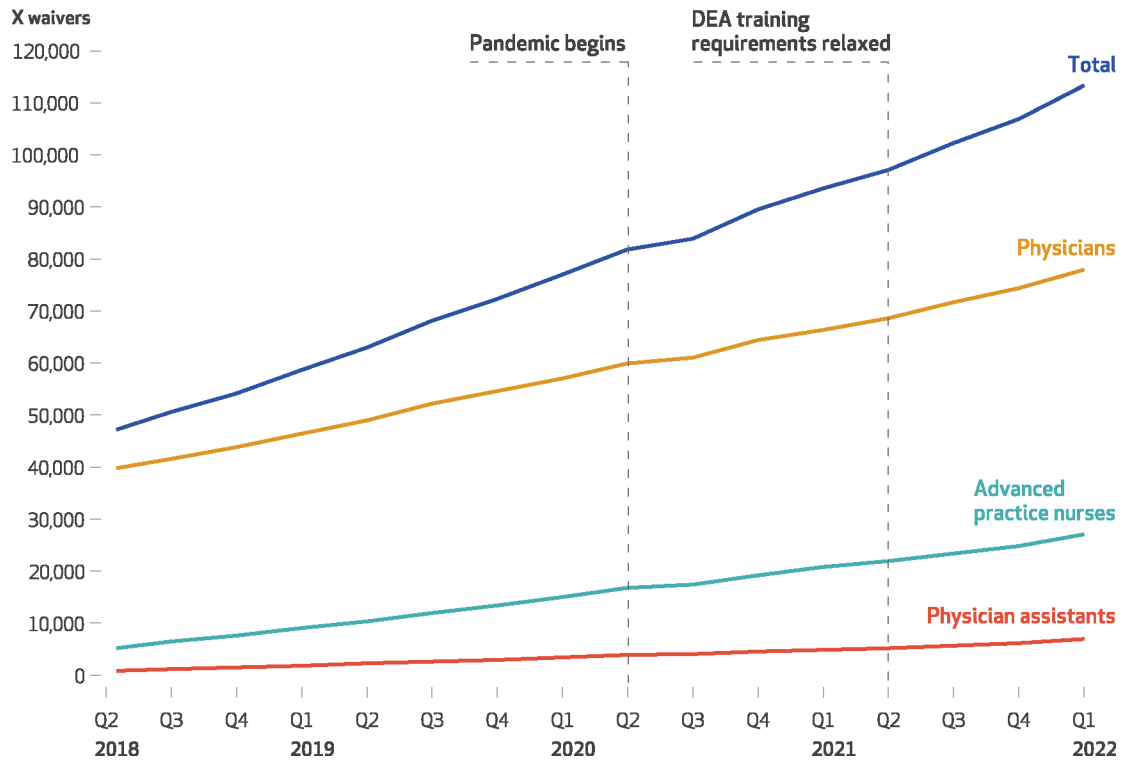
**SOURCE** Authors’ tabulations from Drug Enforcement Agency (DEA) Registrant Files, 2018 Q2–2022 Q1.

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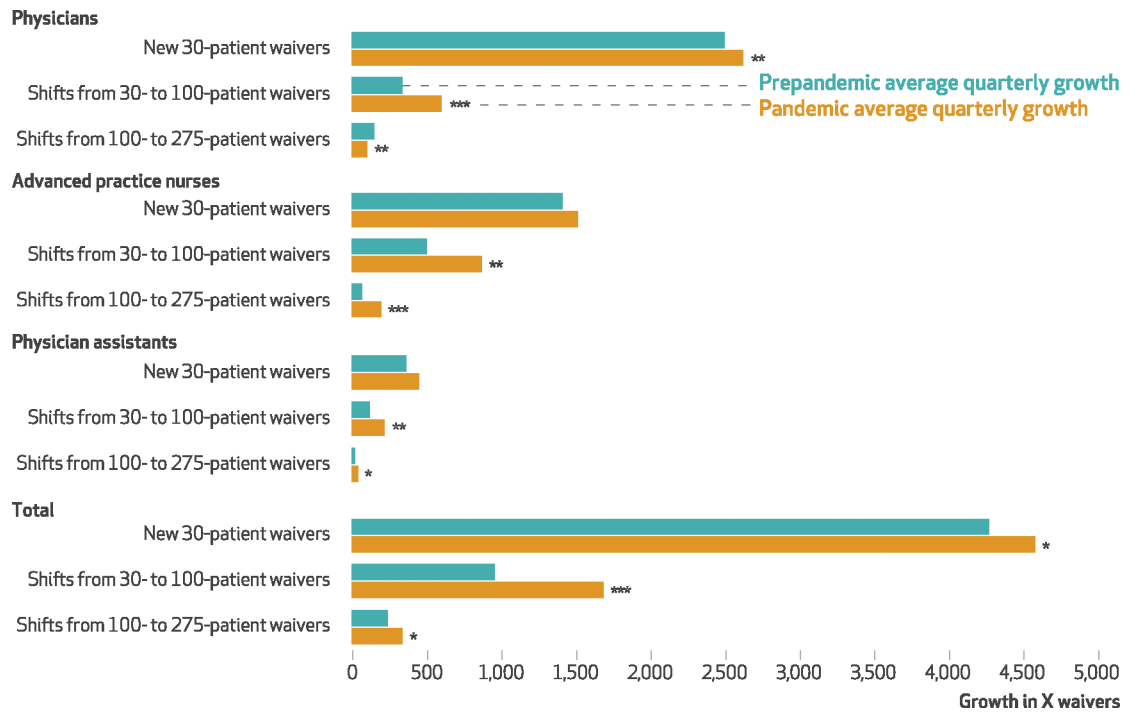
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**EXHIBIT 2. Number of X waivers to prescribe buprenorphine, total and by clinician type, 2018–22**

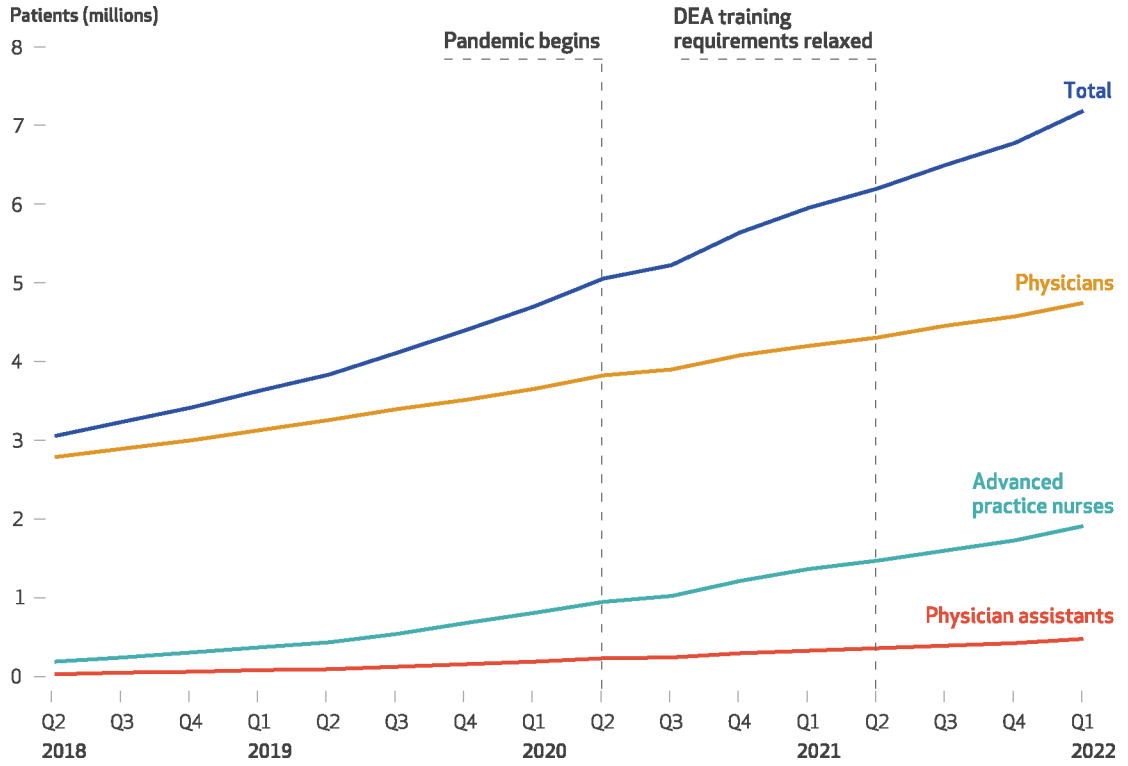
**SOURCE** Authors’ tabulations from Drug Enforcement Agency (DEA) Registrant Files, 2018 Q2–2022 Q1.





**EXHIBIT 3. Average quarterly growth in X waivers to prescribe buprenorphine, prepandemic versus pandemic periods, by waiver size, total and by clinician type, 2018–22**

**SOURCE** Authors’ tabulations from Drug Enforcement Agency Registrant Files, 2018 Q2–2022 Q1. **NOTES** The prepandemic period was from 2018 Q3 to 2020 Q1; the pandemic period was from 2020 Q2 to 2022 Q1. \* $p < 0:10$  \*\* $p < 0:05$  \*\*\* $p < 0:01$



**EXHIBIT 4. Average quarterly growth in potential buprenorphine treatment capacity, millions of patients, total and by clinician type, 2018–22**

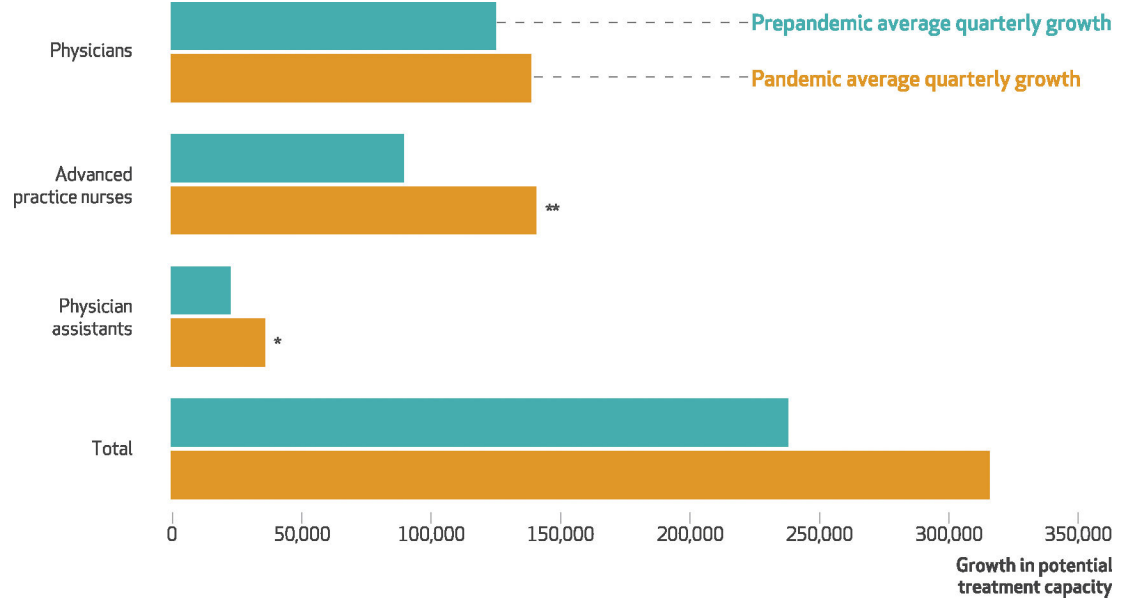
**SOURCE** Authors’ tabulations from Drug Enforcement Agency (DEA) Registrant Files, 2018 Q2–2022 Q1. **NOTES** Potential buprenorphine treatment capacity is calculated as the number of waivers multiplied by the number of patients authorized for concurrent treatment for the waiver type. Potential treatment capacity assumes that all waived clinicians treat the maximum number of patients the waiver allows.

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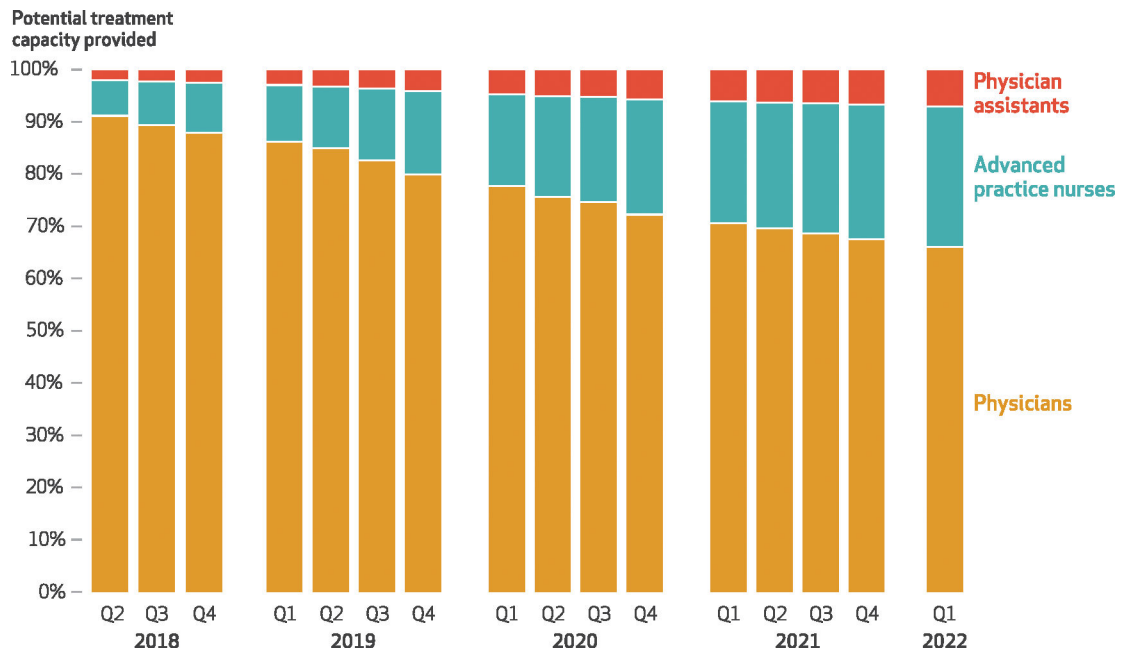
**EXHIBIT 5. Average quarterly growth in potential buprenorphine treatment capacity, prepandemic versus pandemic periods, total and by clinician type, 2018–22**  
**SOURCE** Authors’ tabulations from Drug Enforcement Agency Registrant Files, 2018 Q2–2022 Q1. **NOTE** Potential buprenorphine treatment capacity and the prepandemic and pandemic periods are defined in the notes to exhibits 3 and 4. \* $p < 0:10$  \*\* $p < 0:05$

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**EXHIBIT 6. Percent of potential buprenorphine treatment capacity provided by each clinician type, 2018–22**

**SOURCE** Authors’ tabulations from Drug Enforcement Agency Registrant Files, 2018 Q2–2022 Q1. **NOTE** Potential buprenorphine treatment capacity is defined in the exhibit 4 notes.