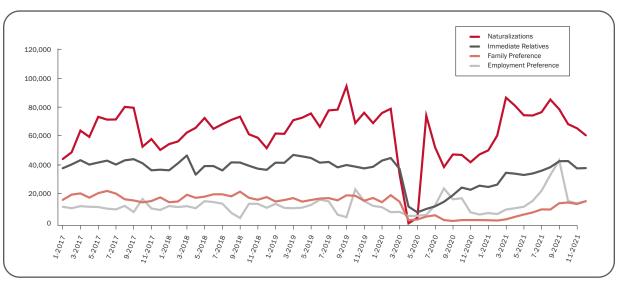
# Estimates of the Lawful Permanent Resident Population in the United States and the Subpopulation Eligible to Naturalize: 2022

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This report presents annual estimates of the size and characteristics of the lawful permanent resident (LPR) population residing in the United States, and of the subpopulation potentially eligible to naturalize, as of January 1, 2022. LPRs, also known as Green Card holders, are immigrants who have been granted lawful permanent residence but who have not yet become U.S. citizens. The estimates are tabulated by country and region of birth, initial state of residence, period of entry, age, and sex. The underlying data were obtained from U.S. Department of Homeland Security (DHS) administrative records for LPRs who entered the United States in 1980 or later, supplemented with estimates from the U.S. Census Bureau's American Community Survey (ACS) for LPRs who entered before 1980. The methodology is similar to the methodology used for previous DHS estimates (see Rytina, 2004).

Figure 1. Naturalizations and LPR Inflows by Category and Month: January 2017-December 2021



Source: DHS Office of Immigration Statistics (OIS) analysis of U.S. Citizenship and Immigration Services (USCIS) data.

There were 12.9 million LPRs living in the United States on January 1, 2022, down 226,000 from January 2021 (see Baker, 2022). Although the monthly inflows of new LPRs had mostly returned to pre-pandemic levels by the end of 2021, that recovery was gradual, and the total inflows for the year were mostly lesser than in the years before the



pandemic (see Figure 1).<sup>1,2</sup> On the other hand, outflows due to naturalizations recovered much more quickly, reaching pre-pandemic levels by February or March of 2021.<sup>3</sup> Between the slow recovery of inflows and the speedier recovery of outflow due to naturalization, the number of LPRs living in the United States on January 1, 2022 declined by 1.7 percent from 2021, about twice the pre-pandemic decline of 0.8 percent from January 2019 to January 2020.

Of the 12.9 million LPRs, 9.2 million met the naturalization age and length of residency requirements as an LPR and thus were potentially eligible to naturalize.<sup>4</sup> This population is virtually the same size as on January 1, 2021, partly because the relatively large number of naturalizations in 2021 were more than balanced out by the larger than usual number of LPRs who obtained LPR status in 2016, many of whom met their residency requirement in 2021.<sup>5</sup> While the inflow of new LPRs was significantly reduced due to the pandemic in 2020 and 2021, the size of the eligible-to-naturalize population will not be affected until 2023-2026, when the smaller than usual 2020 and 2021 cohorts of new LPRs will meet their residence requirement.

The demographic characteristics of the population eligible to naturalize remained similar to earlier years: many more eligible-to-naturalize LPRs were from Mexico (nearly 30 percent) than any other country; 60 percent resided in California, New York, Texas, or Florida; the sex ratio leaned very slightly female; and 60 percent were between 35 and 65 years of age.

#### **BACKGROUND**

The INA directs DHS to report annually on the size and characteristics of the LPR population to support Congress' and the public's ability to assess the impact of immigration on the United States.<sup>6</sup> DHS collects data measuring administrative events such as the number of noncitizens granted lawful permanent residence and the number approved for naturalization, but the department does not collect data on the total population of LPRs or the population of LPRs eligible to naturalize at a point in time. Further, no nationally representative surveys distinguish between LPRs and other foreign-born persons. Therefore, national population data on the major subcategories of foreign-born persons including naturalized citizens, LPRs, nonimmigrants, and unauthorized immigrants are not available and must be estimated. This report presents estimates

<sup>1</sup> The use of "pandemic" throughout this report refers specifically to the COVID-19 pandemic.

6 INA § 103(d)-(e).

of the size and characteristics of the LPR population and the subpopulation eligible to naturalize on January 1, 2022.

#### **METHODOLOGY**

DHS estimates the LPR population stock size at a point in time in four stages. The first stage converts LPR inflow from 1980 through the estimation date into a stock estimate of LPRs by accounting for naturalization, derivative citizenship, and attrition due to mortality and emigration. The second stage draws a stock estimate from the ACS for noncitizens who entered the United States before 1980 and adjusts for attrition that occurred between the middle of the year represented in the ACS and the date of this DHS estimate. The third stage generates the total LPR population size as the sum of the estimates for the two periods. In Stage 4, the subpopulation that is eligible to naturalize is estimated by reducing the LPR population estimate to account for age and residency requirements. See Appendix 1 for a detailed discussion.

#### **FINDINGS**

Nearly 37.3 million immigrants who entered the United States in 1980 or later became LPRs by January 1, 2022 (Table 1). About 48 percent of that total naturalized and another 5 percent derived citizenship8 from a parent before becoming 18 years old. Of the remaining 17.4 million LPRs, about 5.4 million are estimated to have died and/or emigrated, leaving a stock of 11.9 million. Adding 1.0 million noncitizens who entered before 1980 yields a total estimated LPR stock of 12.9 million LPRs living in the United States on January 1, 2022. Of those LPRs, about 9.2 million are adults who acquired LPR status long enough ago to be eligible to naturalize. Compared to 2021, the eligible to naturalize population increased by about 37,000 (0.4 percent). The remainder of this report, following Table 1, focuses on the LPR subpopulation that is eligible to naturalize. Corresponding estimates of the full LPR population can be found in Appendix 2 and are generally similar in terms of each subgroup's proportion of the total.

<sup>&</sup>lt;sup>2</sup> Throughout 2021, inflows of LPRs in immediate relative and family preference categories continued their recovery to near pre-pandemic levels and inflows of LPRs through employment preference categories surpassed pre-pandemic levels.

<sup>3</sup> Monthly naturalizations exceeded pre-pandemic levels for a few months in calendar year 2021, and there were more total naturalizations during that year than in any year in the decade preceding the pandemic.

<sup>&</sup>lt;sup>4</sup> Most LPRs who have attained 18 years of age and satisfied their required length of residency as an LPR are eligible to naturalize, though certain LPRs who meet these core requirements may fail to qualify for other reasons, and certain noncitizens may be eligible without meeting these requirements (see Immigration and Naturalization Act (INA) § 312-331 and Appendix I for details). For the purpose of this report, "eligible to naturalize" refers to the satisfaction of these core requirements for age and length of residency; hereafter, the word "potentially" is omitted for simplicity.

Based on DHS analysis of USCIS data, about 1.19 million people obtained LPR status in calendar year 2016, which is the largest number in the decade preceding the pandemic (2010-2019) and more than 10 percent larger than the average for that decade. Nearly 90 percent of that 2016 cohort of LPRs met their residency requirement in calendar year 2021.

All noncitizens represented in the ACS who entered prior to 1980 are assumed to be LPRs. Under the registry provisions of immigration law, noncitizens are eligible for LPR status if they have lived continuously in the United States since January 1, 1972 and meet other basic requirements. Additionally, certain persons living in the United States before 1982 as unauthorized residents were permitted to adjust to LPR status under the provisions of the *Immigration Reform and Control* Act of 1986.

Certain children may automatically acquire citizenship upon the naturalization of a parent (see INA § 320).

Table 1.

Components of the Population Estimate: January 2022

	Estimate
POPULATION 1: Stock of LPRs who entered in 1980+ and obtained status before the estimate date	
LPRs entered and admitted from 1980 through the estimate date  Naturalized by the estimate date  Derived citizenship by the estimate date  Non-naturalized/derivative subtotal  Mortality  Emigration  Subtotal (stock of LPRs entered and admitted in 1980+)	37,310,000 18,060,000 1,880,000 17,360,000 1,600,000 3,850,000 11,910,000
POPULATION 2: Stock of LPRs entered before 1980	
July 1 stock of LPRs entered before 1980	1,040,000 70,000 970,000
POPULATION 3: Stock of LPRs eligible to naturalize	
Total LPR stock (non-USC) (Population 1 + Population 2)	12,880,000 3,640,000 780,000 2,850,000 9,240,000

Notes: Detail may not sum to total due to rounding; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA  $\S$  312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

More than 25 percent of the LPRs who were eligible to naturalize in 2022 were from Mexico and nearly 50 percent were from North America (including Mexico) (Tables 2 and 3).9 The next leading country of birth was People's Republic of China (China), with 5 percent, followed by the Philippines, Cuba, and the Dominican Republic with 4 percent each. The top 20 countries comprised 70 percent of the total LPR population eligible to naturalize.

Table 2.

LPRs Eligible to Naturalize by Country of Birth: January 2022

Country	Estimate
Total	9,240,000
Mexico	2,470,000
China, People's Republic	490,000
Philippines	360,000
Cuba	340,000
Dominican Republic	330,000
India	300,000
Canada	240,000
Vietnam	220,000
United Kingdom	220,000
El Salvador	220,000
Korea, South	200,000
Haiti	160,000
Jamaica	160,000
Colombia	140,000
Germany	130,000
Japan	120,000
Guatemala	120,000
Poland	100,000
Peru	90,000
Pakistan	80,000
Unknown	20,000
Other	2,740,000

Notes: Detail may not sum to total due to rounding; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA  $\S$  312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

Table 3.

LPRs Eligible to Naturalize by Region of Birth: January 2022

Region	Estimate
Total	9,240,000
Asia	2,660,000
Europe	1,100,000
North America	4,390,000
South America	540,000
Other and unknown	550,000

Notes: Detail may not sum to total due to rounding; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA  $\S$  312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

<sup>&</sup>lt;sup>9</sup> The North America group includes Mexico, Canada, Central America, and the Caribbean.

Table 4 describes the initial or current state of residence for eligible-to-naturalize LPRs. ACS data on current state of residence are available for LPRs who arrived prior to 1980. For all other LPRs, the only available data are based on LPRs' state of residence at the time they obtained LPR status. Many years have passed in most of these cases, so the accuracy of these state-of-residence data depends on the extent to which in- and out-migration rates vary from state to state. With this caveat, the most common state of residence among LPRs eligible to naturalize in 2021 was California (25 percent), followed by New York, Texas, and Florida (12, 11, and 10 percent, respectively) (Table 4). These top four states comprised nearly 60 percent of the total.

Table 4.

LPRs Eligible to Naturalize by Initial or Current State of Residence: January 2022

State	Estimate
Total	9,240,000
California	2,270,000
New York	1,150,000
Texas	1,000,000
Florida	910,000
New Jersey	400,000
Illinois	380,000
Massachusetts	220,000
Washington	200,000
Virginia	190,000
Arizona	180,000
Georgia	180,000
Pennsylvania	170,000
Maryland	160,000
Michigan	140,000
North Carolina	120,000
Colorado	110,000
Connecticut	100,000
Nevada	100,000
Ohio	100,000
Minnesota	90,000
Unknown	40,000
Other	1,030,000

Notes: Detail may not sum to total due to rounding; residency data are based on residency at time of entry for LPRs arriving after 1980 and based on current state of residence as reported in the 2019 Census ACS for LPRs arriving prior to 1980; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA § 312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

The sex ratio among the population eligible to naturalize leaned slightly female (51 percent) (Table 5). Females outnumbered males by a slightly larger margin (52 percent) among the total LPR population (Table A4), driven by larger female LPR inflows and lower mortality rates; but female LPRs also naturalize at a higher rate, <sup>10</sup> offsetting some of the difference.

Table 5.

#### LPRs Eligible to Naturalize by Sex: January 2022

Sex	Estimate
Total	
Female	
Male	4,520,000

Notes: Detail may not sum to total due to rounding; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA § 312-331 and Appendix I1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

The population eligible to naturalize continued to skew toward older age groups. The two oldest age groups (55-64 and 65+) increased about 3 and 4 percent, respectively, compared to 2021, while other age groups declined. These changes are largely explained by the relative sizes of the age groups and people aging in or out of groups, and by younger immigrants' higher tendency to naturalize.

Table 6.

LPRs Eligible to Naturalize by Age Group: January 2022

Age	Estimate
Total	9,240,000
00-17	0
18-24	560,000
25-34	1,340,000
35-44	1,640,000
45-54	1,890,000
55-64	1,880,000
65 and over	1,940,000

Notes: Detail may not sum to total due to rounding; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA  $\S$  312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

Twenty-five percent of the LPRs eligible to naturalize in 2022 entered the United States in 2000-2009, slightly more than 30 percent entered in 2010 or later, and 10 percent entered before 1980 (Table 7). The numbers for the more recent entry years will continue to swell as current LPRs enter adulthood and/or satisfy their residency requirements. The number of eligible-to-naturalize pre-1980 entrants will continue to decline, mostly due to mortality instead of emigration or naturalization, because the bulk of those LPRs are well established and less likely to emigrate, but they are also well past the usual ages for naturalization.

LPRs Eligible to Naturalize by Period of Entry: January 2022

Period of Entry	Estimate
Total	9,240,000
<1980	970,000
1980-1989	1,370,000
1990-1999	1,730,000
2000-2009	2,290,000
2010-2014	1,580,000
2015+	1,290,000

Notes: Detail may not sum to total due to rounding; the year an individual entered may precede the year in which that individual obtained LPR status; for exceptions to the core criteria used to indicate eligibility or lack thereof in this report, see INA § 312-331 and Appendix 1.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

<sup>&</sup>lt;sup>10</sup> See Baker, 2022.

#### **APPENDIX 1: DETAILED METHODOLOGY**

Stage 1:LPRs who entered in 1980 or later. Stage 1 starts with administrative records of LPR admissions and adjustments to LPR status for all persons who entered and obtained LPR status in 1980 or later. That population is then reduced by subtracting out LPRs who entered the United States prior to 1980 and LPRs who naturalized or derived citizenship status from a parent prior to the estimate date. Finally, attrition due to mortality and emigration is estimated based on risk for each LPR in each year from acquisition of LPR status through the estimate date, with mortality risk drawn from National Center for Health Statistics (NCHS) life tables by age and sex, and emigration risk drawn from an emigration schedule adapted from U.S. Census Bureau emigration risk research.

Naturalization. LPRs who subsequently naturalized are excluded by matching individual LPR and naturalization records by A-number. The data are also adjusted for derivative citizenship.

Derivative Citizenship. In most cases, LPRs under 18 years of age automatically acquire U.S. citizenship upon the naturalization of both parents (or, of one parent beginning in February 2001).13 Derivative citizens may choose to apply for a certificate documenting citizenship, but the application is expensive and more affordable alternatives are available, such as a U.S. passport or not pursuing official documentation.<sup>14</sup> In the absence of comprehensive administrative data, the numbers of LPRs deriving citizenship in the 1980-2000 and post-2000 periods are (conservatively) assumed to be the same as the numbers of certificate applications that were approved during those two periods. Next, individuals who obtained LPR status as children in those periods are randomly assigned derivative citizenship status in accordance with the certificate counts. The estimates are likely to be downwardly biased, which means that too few derivative citizens are subtracted from the LPR inflow in Stage 1, but the extent of underestimation is unknown.

Mortality and Emigration. Reliable, direct measurements of LPR mortality and emigration do not exist, so attrition due to mortality and emigration is estimated for each year from acquisition of LPR status through the estimate date. LPRs are survived using NCHS mortality rates from 1999-2001 decennial life tables by age and sex (see Arias et al, 2008). Emigration is estimated using a schedule based on research on emigration of the foreign-born population by the U.S. Census Bureau (see Ahmed and Robinson, 1994), adapted into a schedule for use with the LPR population (see Warren, 2003). Warren's schedule assumes an emigration rate of 3.258 percent in the first year and decreases each

subsequent year's rate by 5 percent. In addition, individuals who obtained LPR status as refugees and asylees, having escaped persecution in their previous home countries, are assumed to emigrate at a rate of zero percent.<sup>17</sup>

While the COVID-19 pandemic is expected to have affected the rates of both emigration and mortality, the exact magnitude and/ or direction of these impacts is still unknown. It is likely mortality rates increased, but future research is needed to determine the exact adjustments to emigration and mortality schedules to account for the influence of COVID-19.

Stage 2: LPRs who entered before 1980. Stage 2 starts with the 2019 1-year ACS Public Use Microdata Sample data on noncitizens and naturalized citizens who entered before 1980. The 2019 ACS is used instead of the 2020 due to concerns about sample coverage and response rates, especially among the foreign-born (see Shin 2021). The ACS benchmark of July 1 is shifted forward to the estimate date by applying two and a half years of mortality and emigration risk. Mortality and emigration are calculated using the same schedules as in Stage 1, but with risk zeroed out for all years prior to the ACS estimate year.

Stage 3: Full LPR population. The total LPR population is the sum of the Stage 1 population of LPRs who entered in 1980 or later and the Stage 2 population of LPRs who entered before 1980.

Stage 4: LPR Subpopulation Eligible to Naturalize. LPRs generally become eligible to naturalize after turning 18 years old and meeting U.S. residency and other requirements. The population eligible to naturalize is estimated by first filtering the LPR population to those 18 years of age and older, and then filtering to those who have met the residency requirements based on class and year of admission.

Most LPRs are required to meet a 5-year residency requirement after obtaining LPR status, but persons adjusting to LPR status as spouses of U.S. citizens generally are only subject to a 3-year requirement, and the 5-year clock starts earlier for persons adjusting to LPR status under certain other classes of admission. For asylees adjusting to LPR status, the date of LPR admission is rolled back to 1 year prior to the date on which the LPR application was approved, so asylees are assumed to be eligible to naturalize after 4 years as an LPR. For immigrants adjusting to LPR status as refugees, Lautenberg parolees, or through cancellation of removal, the date of LPR admission is rolled back to the date of arrival in the United States as a refugee, the date of parole, and the date of cancellation of removal.

It is assumed that 2 years elapse between the earlier dates and the date of approval of the application for permanent residence so that these LPRs are eligible to naturalize approximately 3 years after obtaining LPR status.<sup>19</sup>

<sup>&</sup>lt;sup>11</sup> All noncitizens who entered prior to 1980 are assumed to be LPRs; see footnote 5.

<sup>&</sup>lt;sup>12</sup> Some persons who became LPRs in 1980 or later entered the United States under a different status before 1980.

<sup>&</sup>lt;sup>13</sup> The Child Citizenship Act ("CCA") of 2000, Pub.L. 106-395, amended INA § 320 and repealed INA § 321. The effective date of the CCA is February 27, 2001; the law applies to children under the age of 18 on that date.

The Form N-600, Application for Certificate of Citizenship, currently carries a filing fee of \$1,170, though some individuals may qualify for a fee waiver (application Form I-912, Request for a Fee Waiver). Alternatively, a U.S. passport card and/or book can be obtained for a child for \$50 to \$65, depending on the age of the child. Note that a Certificate of Citizenship does not expire, whereas a U.S. passport card and/or book does expire.

This method may overestimate mortality because immigration favors younger, healthier people, and because older or less healthy immigrants may be more likely to emigrate than members of the native-born population.

Attrition due to emigration must be estimated because reliable, direct measurements of LPR emigration do not exist.

<sup>&</sup>lt;sup>17</sup> See Baker 2021 on limitations of this approach.

Ordinarily, the previous year's ACS is used, and the ACS benchmark of July 1 is shifted forward to the estimate date by applying a half-year of mortality and emigration risk. The 2022 edition of this report uses the 2019 ACS because the 2021 ACS had not yet been released and the 2020 ACS had coverage problems due to the pandemic.

<sup>&</sup>lt;sup>19</sup> Several other exceptions to the 5-year residency requirement exist, most of which affect small numbers of immigrants. For example, under certain circumstances (e.g., military service in time of hostilities), certain noncitizens may be permitted to naturalize without first becoming an LPR, and some categories (e.g., INA § 319(b)) do not require prior residence or a specified period of physical presence in the United States. Other LPRs, such as those not found to be of good moral draarcter, may not be eligible to naturalize regardless of length of residency (see INA Title III for details).

## APPENDIX 2: TOTAL LPR POPULATION ESTIMATES FOR JANUARY 2022

#### Table A1.

### LPRs by Country of Birth: January 2022

Country	Estimate
Total	12,880,000
Mexico	2,970,000
China, People's Republic	830,000
India	580,000
Dominican Republic	550,000
Philippines	510,000
Cuba	500,000
Vietnam	360,000
El Salvador	320,000
Korea, South	270,000
Canada	270,000
United Kingdom	250,000
Haiti	230,000
Jamaica	220,000
Colombia	200,000
Guatemala	180,000
Germany	150,000
Pakistan	140,000
Brazil	140,000
Japan	140,000
Honduras	120,000
Unknown	20,000
Other	3,940,000

Note: Detail may not sum to total due to rounding.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### Table A2.

#### LPRs by Region of Birth: January 2022

Region	Estimate
Total	12,880,000
Asia	4,100,000
Europe	1,410,000
North America	5,590,000
South America	840,000
Other and unknown	940,000

Note: Detail may not sum to total due to rounding.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### Table A3.

#### LPRs by Initial or Current State of Residence: January 2022

State	Estimate
Total	12,880,000
California	2,970,000
New York	1,600,000
Texas	1,360,000
Florida	1,270,000
New Jersey	580,000
Illinois	520,000
Massachusetts	330,000
Washington	300,000
Virginia	280,000
Georgia	270,000
Pennsylvania	260,000
Arizona	250,000
Maryland	250,000
Michigan	210,000
North Carolina	190,000
Ohio	160,000
Colorado	150,000
Connecticut	140,000
Minnesota	140,000
Nevada	130,000
Unknown	40,000
Other	1,490,000

Note: Detail may not sum to total due to rounding.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### Table A4.

#### LPRs by Sex: January 2022

Sex	Estimate
Total	
Female	6,690,000
Male	6,190,000

Note: Detail may not sum to total due to rounding.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### Table A5.

#### LPRs by Age Group: January 2022

Age	Estimate
Total	12,880,000
00-17	750,000
18-24	900,000
25-34	2,050,000
35-44	2,390,000
45-54	2,400,000
55-64	2,200,000
65 and over	2,190,000

Note: Detail may not sum to total due to rounding.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### Table A6.

#### LPRs by Period of Entry: January 2022

Period of Entry	Estimate
Total	12,880,000
<1980	970,000
1980-1989	1,400,000
1990-1999	1,870,000
2000-2009	2,580,000
2010-2014	2,000,000
2015+	4,070,000
65 and over	2,190,000

Notes: Detail may not sum to total due to rounding; the year an individual entered may precede the year in which that individual obtained LPR status.

Source: DHS OIS analysis of USCIS and U.S. Census Bureau data.

#### **REFERENCES:**

Ahmed, Bashir and J. Gregory Robinson, 1994. "Estimates of Emigration of the Foreign-Born Population: 1980-1990," Technical Working Paper No. 9, U.S. Bureau of the Census, http://www.census.gov/population/www/documentation/twps0009/twps0009.html.

Arias, Elizabeth and Lester R. Curtin, Rong Wei and Robert N. Anderson, 2008. "U.S. Decennial Life Tables for 1999-2001, United States Life Tables," National Vital Statistics Report 57 (1), National Center for Health Statistics, Centers for Disease Control, http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57\_01.pdf.

Baker, Bryan, 2022. "Estimates of the Lawful Permanent Resident Population in the United States and the Subpopulation Eligible to Naturalize: 2019-2021," DHS Office of Immigration Statistics, https://www.dhs.gov/immigration-statistics/population-estimates/LPR.

Rytina, Nancy, 2004. "Estimates of the Legal Permanent Resident Population and Population Eligible to Naturalize in 2002," DHS Office of Immigration Statistics, https://www.dhs.gov/immigration-statistics/population-estimates/LPR.

Shin, Hyon B., 2022. "An Assessment of the COVID-19 Pandemic's Impact on the 2020 ACS 1-Year Data," U.S. Census Bureau, An Assessment of the COVID-19 Pandemic's Impact on the 2020 ACS 1-Year Data (census.gov)

Warren, Robert, 2003. "Estimates of the Unauthorized Immigrant Population Residing in the United States: 1990 to 2000," U.S. Immigration and Naturalization Service Office of Policy and Planning, https://www.dhs.gov/immigration-statistics/population-estimates/unauthorized-resident.