



# A Longitudinal, Geographical, and Descriptive Analysis of Political Contributions of Plastic Surgeons

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## Abstract

**Background** Political contributions from healthcare providers are essential to shaping healthcare policy and allow physicians to expand their influence on a national level. Political Action Committees in particular provide a useful avenue for unifying contributions for the interest of a specific community. This study examined the geographical distribution, temporal pattern, and overall nature of the political contributions made by plastic surgeons.

**Methods** The Federal Election Commission was analyzed for political contributions made by plastic surgeons from 2003 to 2021 using the search terms “plastic surgeon,” “microsurgeon,” and “craniofacial” as well as physician contributions to PlastyPAC. Contributions were categorized based on political parties (Democratic, Republican, and independent parties), and further analyzed based on state distribution and year of contribution. Spatial distribution data were then visualized using heatmaps for each state.

**Results** The total sum of contributions between 2003 and 2021 from plastic surgeons was \$5,306,605, with \$1,737,178.51 for the Republican party, \$962,773.26 for the Democratic party, and \$2,604,149.86 for independent parties. Political funding of PlastyPAC consisted of 47.3% of the overall political contributions. There was no significant trend through the years in the overall contribution

amount. The states with the most political contributions were California, New York, Florida, and Texas.

**Conclusions** The temporal stagnation of total political contributions and decline in recent PlastyPAC funding from plastic surgeons support an increased political awareness for new plastic surgeons.

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**Keywords** Politics · Plastic surgery · PlastyPAC

## Introduction

Over the past several decades, the landscape of healthcare has expanded immensely. Legislation such as the Affordable Care Act has resulted in significant changes to how patients can access value-based care [1]; others such as the Medicare Access and CHIP Reauthorization Act revolutionized the Medicare physician payment system [2]. Most recently, the COVID-19 pandemic further exposed pitfalls in healthcare, prompting the need for greater reforms and the promotion of universal access to affordable care across the country. Shifting priorities to health care was listed as the forefront concern in the 2020 presidential debate among the general population [3]. Interestingly, these changes in healthcare have also spurred an increase in physician involvement in politics [4], as the evolving legislature continues to influence physician autonomy, reimbursements, and the delivery of quality patient care.

Establishment of Political action committees (PACs) have provided physicians the opportunity to engage with

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members of Congress by contributing to campaigns with the intent of influencing the support of candidates or certain legislation after elections [5]. In particular, the plastic surgery PAC (PlastyPAC) allows plastic surgeons to form a community, and serves as the largest voice for advocacy and political change in reconstructive and cosmetic surgery [6]. Although numerous studies have previously characterized political engagement in various specialties and subspecialties [7–10], there has been no such study done for plastic and reconstructive surgeons. To achieve this, we characterized political contributions from US self-reported plastic surgeons to analyze the temporal and geographical trends of plastic surgery political engagement in USA.

## Methods

Individual contributions were queried using the Federal election commission (FEC) database for all available years, spanning from 2003 through 2021. As a publicly available database, no institutional review board approval was required, and guidelines for Strengthening and Reporting of Observational Studies in Epidemiology were followed. To identify plastic surgeons, the occupation field was filtered using the strings “plastic surgeon,” “microsurgeon,” and “craniofacial.” However, “hand surgeon” was not used as a search term due to potential subspecialty overlap with orthopedic surgeons who were not included in this study. Physician contributions toward PlastyPAC were also included as there was a noticeable number of surgeons who identified as “physician.” Non-active physicians, such as those including the term “retired,” were also excluded. Furthermore, erroneous entries, such as those with negative or zero contributions, as well as those from territories outside of the 50 states, including Guam and Puerto Rico, were excluded (Fig. 1).

The recipient of the contributions was classified as either Republican, Democratic, or Independent by cross-referencing the identification numbers with the FEC database. If this information was unavailable on the FEC website, then the committee was identified through the Open Secrets database. Committee contributions were stratified for donations with 80% or more of the funding going to a single party; otherwise, the organization was classified as Independent. Data were then segregated based on year of the contribution and location of the contributing surgeon.

## Descriptive Analysis

Data extraction, organization, and analysis were performed via Python and Microsoft Excel. The choropleth map was created using the “gvisGeoChart” package via R studio.

## Results

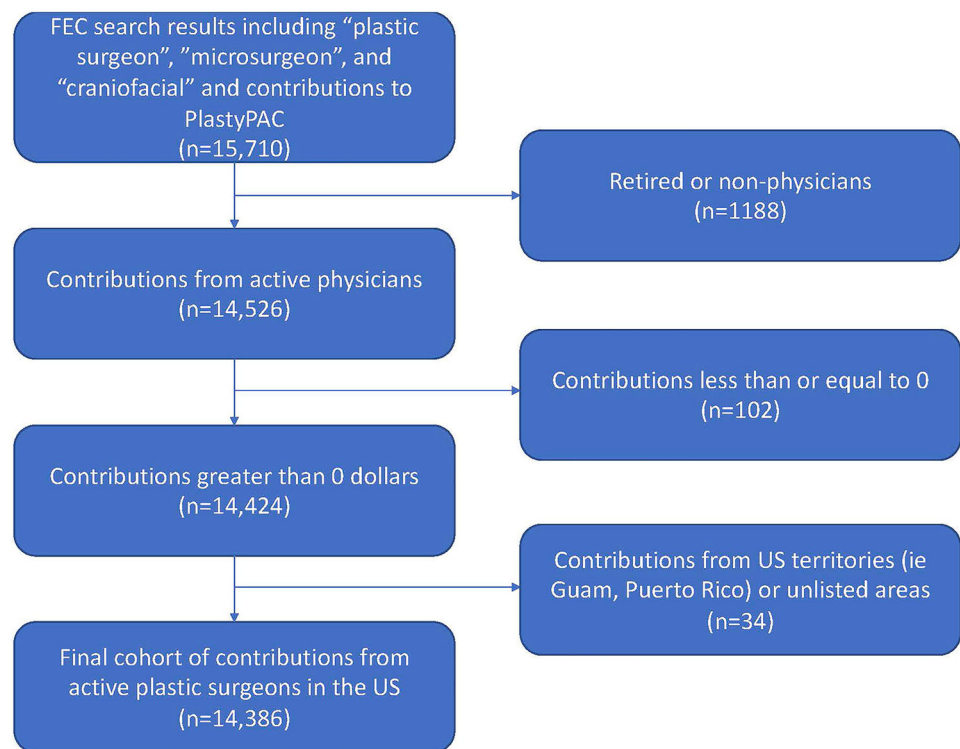
Between the years 2003 and 2021, there was a total of \$5,306,605.63 in political contributions from plastic surgeons, which consisted of \$1,737,178.51 for the Republican party, \$962,773.26 for the Democratic party, and \$2,604,149.86 for independent parties. There were 14,386 unique contributions, with the majority being Independent (45.4%) followed by Republican (31.9%) and Democratic (22.7%). Contribution amounts ranged from \$0.25 to \$36,979.48 (Table 1).

Breakdown of the yearly trends revealed a fluctuating pattern, with peaks every four years coinciding with the presidential election. Furthermore, there was a significant peak in the 2020 election cycle, with the sum of the contributions for that year (\$740,663) exceeding the second highest year of 2012 (\$418,154.40) by 77%. The contributions toward Independent parties constituted the majority of funding over most of the years with the exceptions of 2012, 2016, and 2020, which were predominantly Republican funding (Figure 2A). Similarly, the number of contributions was greater for Independent parties for all years except 2016 and 2020, which were led by Republican contributions (Figure 2B). A linear regression analysis to determine whether there was an increase in contribution amount over the time period for the Independent contributions, Republican, and Democratic parties revealed a R-squared value of 0.004, 0.06, and 0.0004, respectively. These findings suggest that there is no significant increase or decrease in political contribution amount over time in any of the political parties.

Contributions by state were also analyzed excluding US territories. The Republican party received the most funding from plastic surgeons in Florida (\$260,429.72), while the Democratic party received the most funding from plastic surgeons in New York (\$244,898.64). The state with the highest contributions to the Independent party was Georgia with \$344,366.98. Of note, every state other than Vermont, Wyoming, Maine, and New Mexico had Republican donations, while Vermont, Wyoming, Idaho, New Hampshire, Rhode Island, Kansas, and Alabama did not have any contributions to the Democratic party. However, the only state without Independent party funding was Alaska. Donations per state for the Democratic, Republican, and Independent parties can be visualized in a heatmap in Figs 3, 4, 5, respectively. Partisan contribution amount by overall contribution difference is illustrated in Fig. 6.

The Political action committee (PAC) for plastic surgeons, identified as “PlastyPAC,” was also analyzed. There were 6404 contributions with a range of \$10 to \$5000 with an aggregate sum of \$2,508,759.39. The sum of the donations from plastic surgeon PAC constituted 96.3%

**Fig. 1** Flowchart demonstrating inclusion and exclusion results. A search of all plastic surgeon political contributions on the FEC revealed 15,710 contributions. After exclusion of retired and non-physicians, mis-entered information, and contributions from outside the 50 states, there were 14,386 contributions analyzed.



**Table 1** Overall characteristics of contributions by political affiliation

Contribution (in USD)	Democratic	Independent	Republican	Total
Total contribution amount	962,773.26	2,604,149.86	1,737,178.51	5,306,605.63
Total number of unique contributions	3,266	6533	4588	14,386
Number of recipient parties	279	40	420	739
Average contribution amount	294.79	398.61	378.64	368.87
Maximum contribution amount	28,000	10,000	36,979.48	36,979.48
Minimum contribution amount	0.3	10	0.25	0.25

of independent party contributions and 47.3% of the overall political contributions.

## Discussion

The advent of elevated political involvement in healthcare has brought about an increase in physician activism and contributions to policy design. Characterization of the political contributions from plastic surgeons may help guide understanding of physician impact and how to increase physician impact in future. Our study analyzed for the first time the spatial, temporal, and partisan characteristics of political contributions from plastic surgeons.

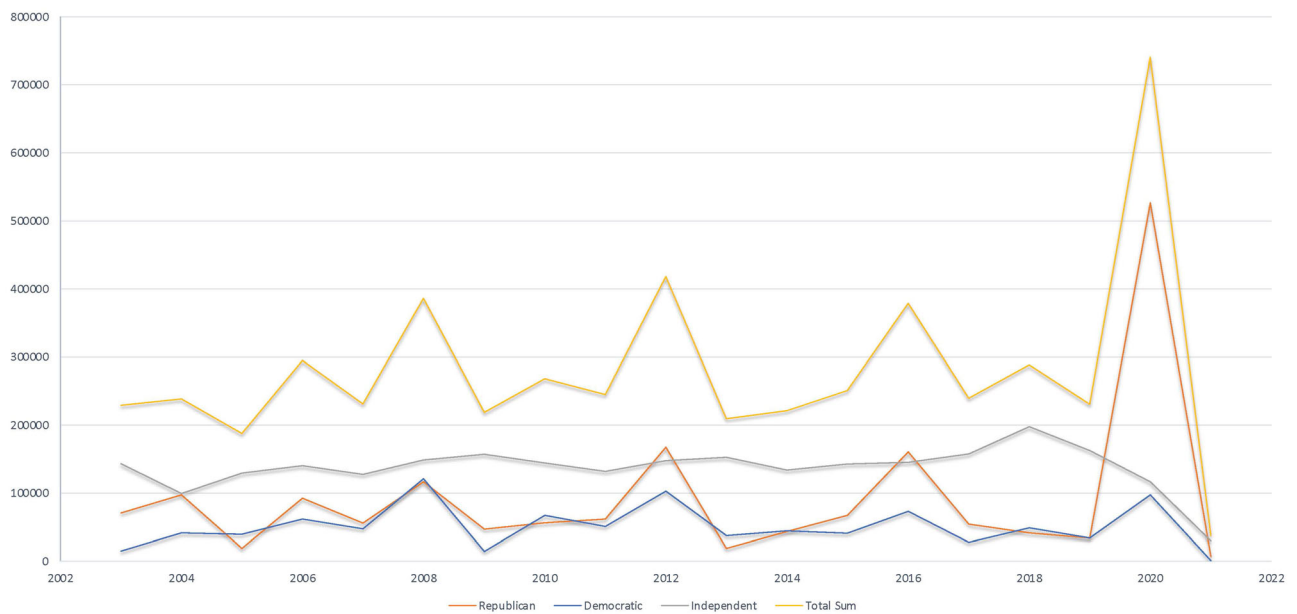
The states with the highest contributions from plastic surgeons to political parties were California, New York, Florida, and Texas, which were also the four states with the highest number of plastic surgeons. The sum of the contributions from these four states consisted of 45.1% of all

political contributions. Interestingly, despite having the highest number of plastic surgeons, California has the lowest contribution per surgeon at \$660.93 of these four states, while New York had the highest contribution per plastic surgeon at \$965.57 (46% increase from California). These findings may reflect a greater general political interest in New York, and support further emphasis on political advocacy for plastic surgeons located in California.

The temporal pattern displayed in plastic surgeons stands in stark contrast to other specialties. The low R-squared values for each of the Republican, Democratic, and Independent contributions indicate a stable pattern of contributions over the years. In contrast, other specialties, such as radiology and neurological surgery, have demonstrated substantial growth in percentage of Democratic contributions, although Republican contributions in these specialties have remained greater than the Democratic party. In plastic surgery, however, outside of a spike of

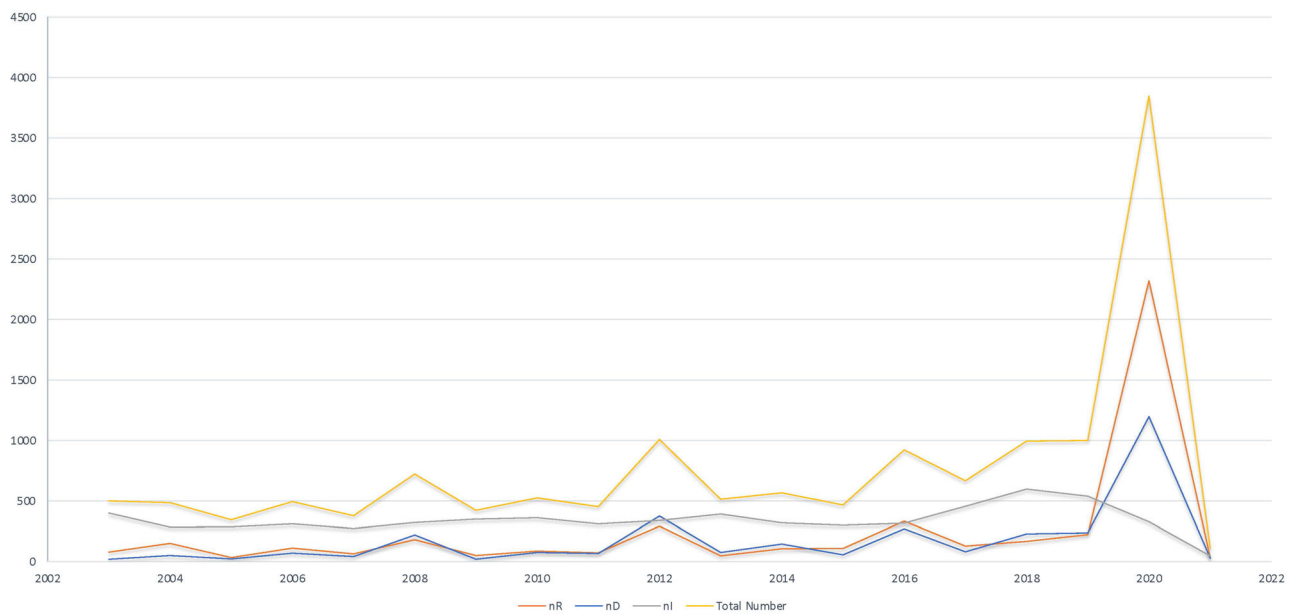
A

Yearly Trends for Donated Sums Per Party



B

Yearly Trends for Number of Contributions Per Party



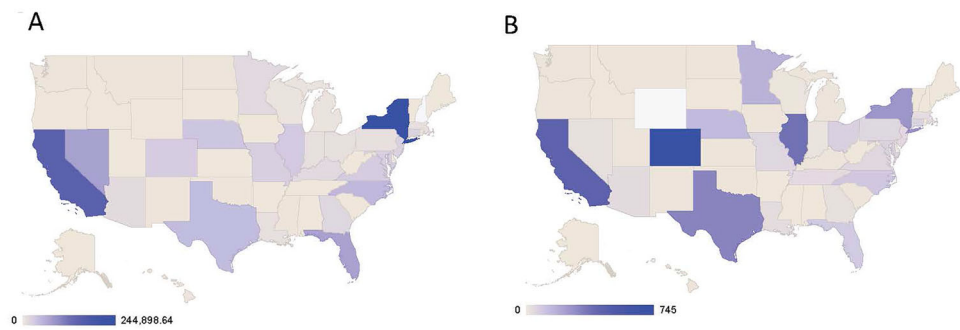
**Fig. 2** Temporal distribution of donation amount and number of donations per political party. The yearly trends for total donations (2A) and number of donations (2B) were relatively stable with the exception of a spike in Republican donations in 2020.

both the Democratic and Republican funding during the 2016 and 2020 presidential elections, the overall trend for plastic surgeon political donations has remained stable. These results suggest a decline in interest in political

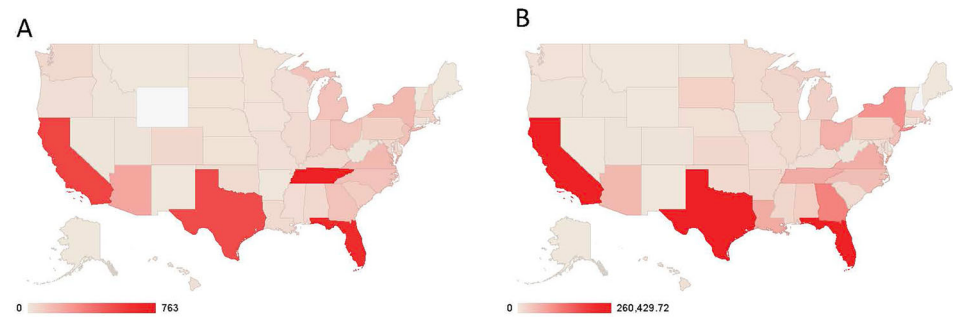
activity and support a call to action for continued and increased political involvement among plastic surgeons.

The increase in Republican and Democratic donations in 2016 and 2020, along with a decrease in Independent funding, demonstrates the shift during these election years

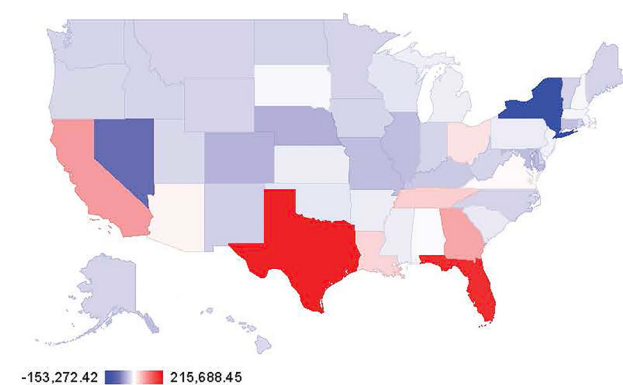
**Fig. 3** Heatmap by state for democratic contributions by sum and number. The states with the most contributions to the Democratic Party by sum (Figure 3A) and number (Figure 3B) have significant overlap, with darker shades of blue representing increased contributions.



**Fig. 4** Heatmap by state for republican contributions by sum and number. The states with the most contributions to the Republican Party by sum (Figure 4A) and number (Figure 4B) have significant overlap, with darker shades of red representing increased contributions.



**Fig. 5** Heatmap by state for independent contributions by sum and number. The states with the most contributions to independent parties by sum (Figure 5A) and number (Figure 5B) have significant overlap, with darker shades of gray representing increased contributions.



**Fig. 6** Heatmap by state for overall partisan contributions by sum. The overall political affiliation of plastic surgeon contributions in each state is represented in the heatmap, with red representing an overall Republican contribution and blue representing an overall Democratic contribution.

toward partisan parties. Furthermore, the overall Republican contributions for the majority of the years were higher than those for the Democratic party. This result is consistent with the findings in other specialties where higher paying specialties, including neurosurgery, radiologists, and anesthesiologists, tend to align more with the Republican party in contrast to less compensated specialties such as psychiatry [11]. Singh et al. stipulated that surgeon support of Republican candidates may be in part due to medical liability reform legislature that would help support the high rates of malpractice lawsuits [9]. Republican support may be particularly demonstrated in states with pronounced tort laws such as Texas, while states that have weak tort laws, such as New York, also have fewer Republican contributions [12]. Additional correlations between tort reform and physician growth in Texas have also been noted, suggesting that a political framework similar to Texas may be helpful for improving healthcare access and physician practice [13].

PACs have been established as an organization that acts in the general interest of the specialty rather than a specific candidate. Patel et al. found a majority of contributions for the radiology PAC, along with exponential growth in recent years [8]. Similarly, 41.8% of all political contributions made by neurological surgeons were also directed to the AANS PAC [9]. The impact of PACs in plastic surgery has been explored in prior studies, with Ellsworth et al. noting a correlation between PAC legislative actions and corresponding case volume [14]. Mullens et al. also described a number of legislature and advocacy efforts at both the national and regional level that were enabled by the ASPS, including establishment of databases, opposition of independent practice by non-qualified providers, and increase in funding of residency and fellowship positions [15]. Although PlastyPAC plays an important role in optimizing the impact of plastic surgeons in the political landscape, there has been a decline in the past three years for independent contributions as noted in our study (Fig. 2A, 2B). Additional exposure and education regarding PlastyPAC is necessary to promote engagement with emerging surgeons. For example, a survey conducted among young plastic surgeons demonstrated elevated interest in PlastyPAC but with a lack of awareness of mechanism of involvement [16].

This study is not without limitations. First, the data were pulled from the FEC, which relied on self-reported data regarding the employment status. Despite our search methodology to encompass as many active plastic surgeons as possible, surgeons who identified as “physician” or “doctor” were not included in this study. Furthermore, errors in the database, such as negative contribution amounts, were identified and excluded, although these comprised of only a few data points and had little overall impact on the data.

## Conclusions

In contrast to the growth found in other physician specialties such as radiology and neurosurgery, political contributions from plastic surgeons demonstrate a relative stagnation over the years. The majority of political contributions were directed to the PlastyPAC, which is responsible for direct healthcare advocacy and legislature, followed by Republican party contributions. However, a decline in the contributions for PlastyPAC in recent years supports a push for increased advocacy and engagement to further promote healthcare policy for plastic surgeons.

## Declarations

**Conflict of interest** The authors declare that they have no conflicts of interest to disclose.

**Human and Animal Rights** This article does not contain any studies with human participants or animals performed by any of the authors.

**Informed Consent** For this type of study informed consent is not required.

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