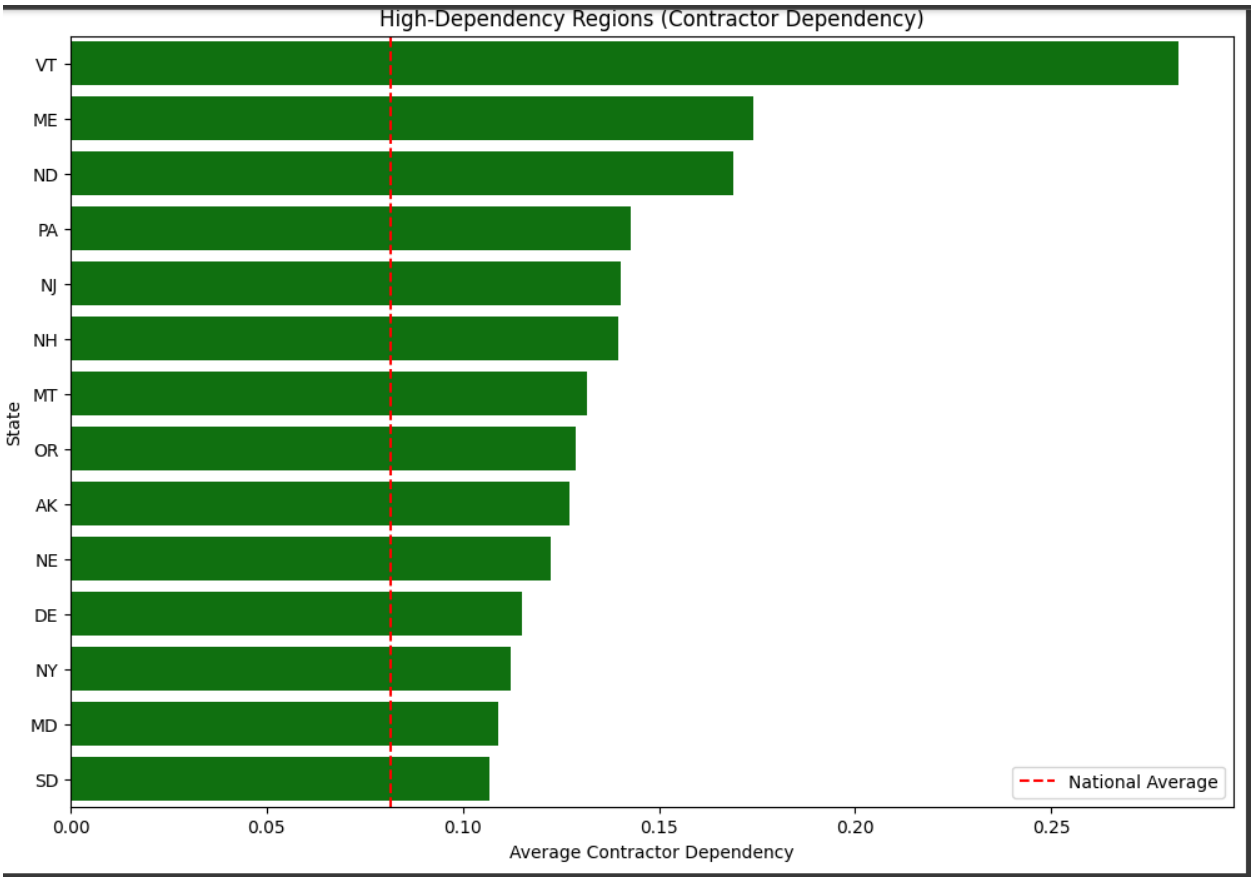
Part 1: Recommendations to Sales Leadership Team

Payroll Based Journal (PBJ) Daily Nurse staffing and Skilled Nursing Facility Quality Reporting Program - Provider Data is used for analysis. Latest version of 2024 Q1

1. Regions with High Dependency on Contract Shift

Initial calculation involved aggregating CTR hrs in one bucket and EMP hrs in another. Later this data was used to calculate contract ratio. A ratio of 1.3 was used to limit the data across all the rows and later aggregated by States/Regions.



Insights:

- States like Vermont and New Hampshire exhibit a greater dependence on contractors, likely reflecting either a dynamic labor market or a scarcity of full-time workers.
- The contractor dependency national average stands at about 0.08, providing a benchmark for state comparisons.
- High contractor dependency states might experience challenges related to workforce stability and benefit provisions.

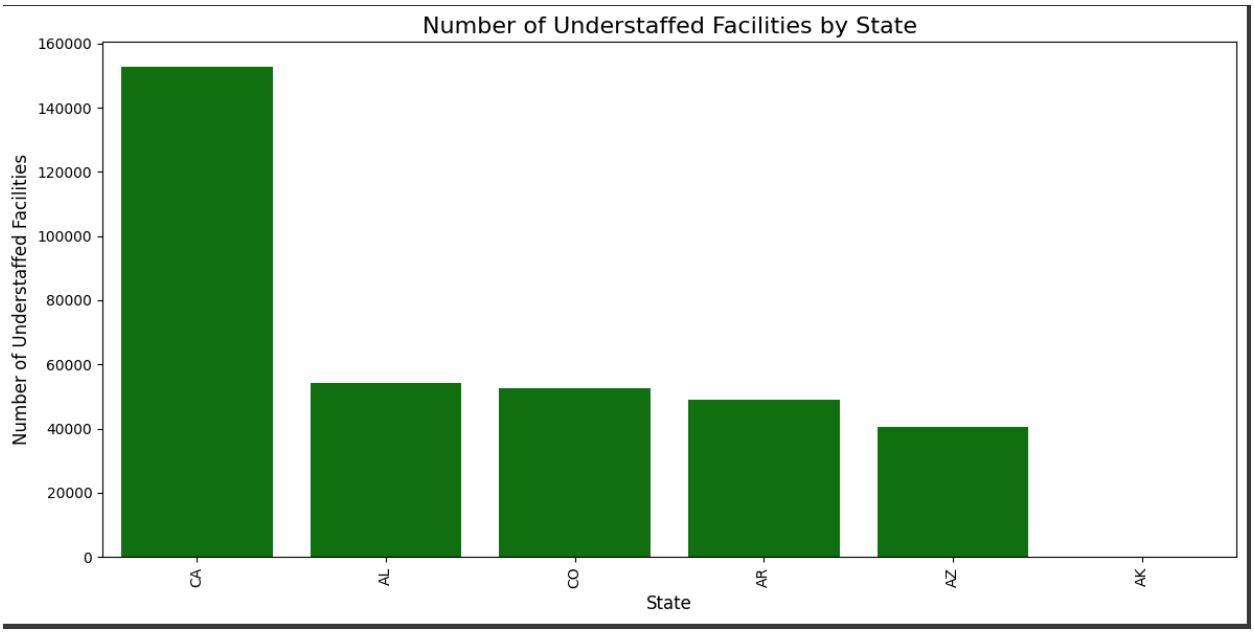
Recommendations

- Implement policies to balance contractor and full-time employment for workforce stability.
- Focus on training and development to reduce contractor dependency and create a more stable workforce. Making use of

- Developing strategies to enhance its performance could balance the overall success by identifying and replicating neighbouring states.
- Partner with local nursing homes or health facilities in high-dependency areas to strengthen trust and make Clipboard Health the favored staffing choice.

2. Which nursing homes have lower staffing levels and could be ideal candidates for Clipboard Health's contract staffing services?

To pinpoint nursing homes with lower staffing levels that could benefit from Clipboard Health's contract staffing services, I undertook a thorough examination of understaffed facilities. By integrating this data with the Skilled Nursing (SN) dataset, I could isolate facilities with quality issues. This method highlighted key areas that would most benefit from Clipboard Health's solutions and provided actionable insights for targeted sales strategies**.**

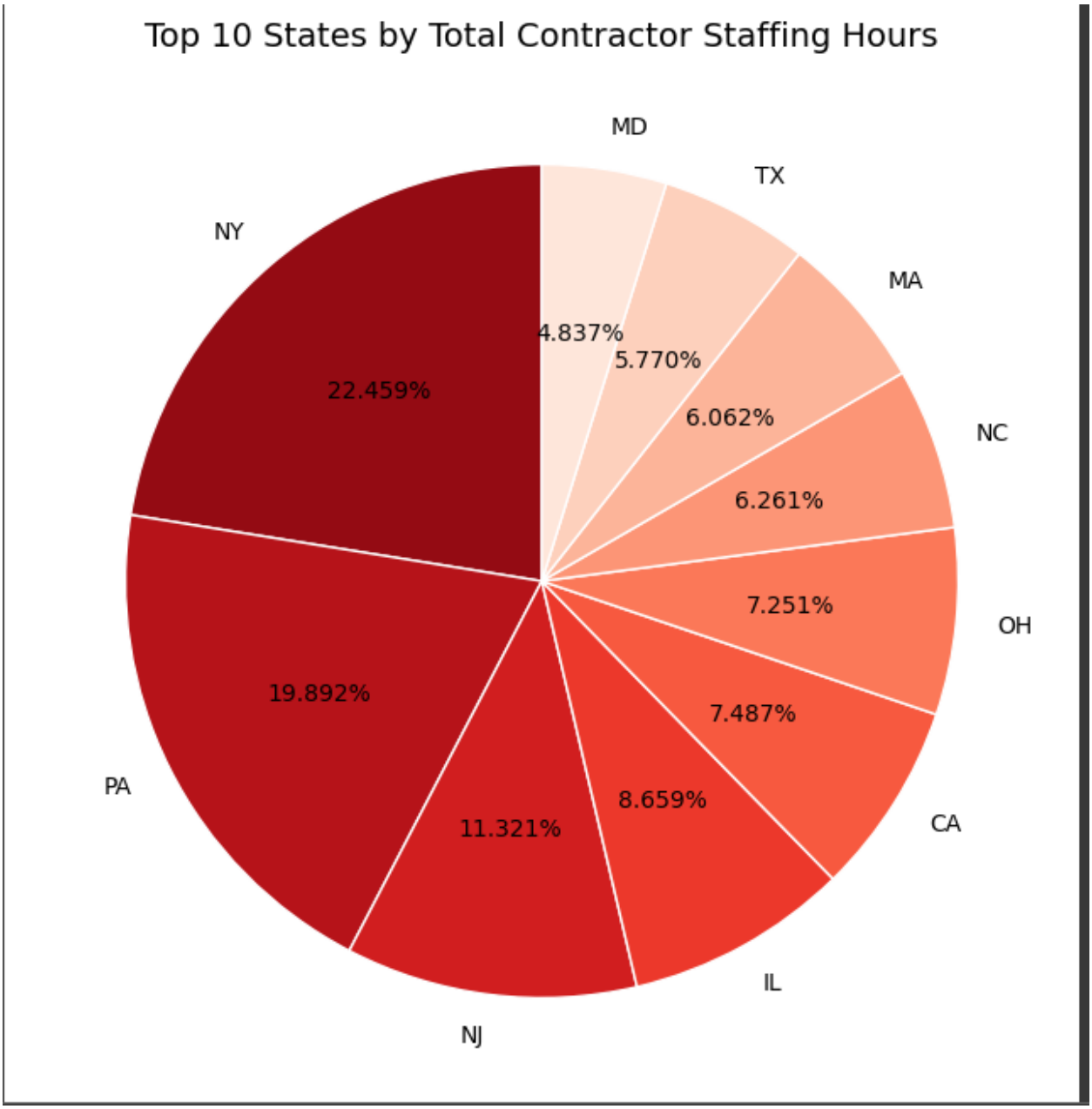


Recommendation:

- Since these state have the highest number of understaffed facilities, Clipboard Health should intensify recruitment efforts there. Collaborating with local staffing agencies and incentivizing healthcare professionals to work in these regions can help alleviate the shortage.
- Due to significant disparities between states, regional hiring strategies should be tailored. For example, offering competitive packages and flexible working conditions in California, Alabama, Colorado might be more effective than a uniform national approach
- States with high needs, California, could benefit from partnerships between Clipboard Health and local governments to develop policies attracting healthcare workers. This could include loan forgiveness programs, housing assistance, or other incentives.
- For the leading states with staffing issues, it would be beneficial to investigate the root causes. Are the problems related to the size of the facility, funding, location, or other factors? Understanding this will enable more targeted solutions.

3. Region with High contract staffing hours, Clipboard self reflection on it's improvement

Identify regions with high contracting hours to improve potential presence. Analysis by region to understand Total Hours compared with contract hours.



New York (NY) relies heavily on contractors for staffing, with 22.5% of total hours filled by contractors. This reliance suggests that there is a substantial need for temporary staffing solutions, likely driven by high patient volumes or persistent workforce shortages. Pennsylvania

(PA) is close behind with 19.9%, also indicating long-term staffing challenges in its healthcare facilities. New Jersey (NJ) and Illinois (IL) follow with 11.3% and 8.7% respectively, underscoring their struggle to maintain permanent staffing. Maryland (MD) has the lowest among the top 10 states at 4.8%, suggesting fewer staffing issues but still some reliance on temporary workers.

Recommendations

- Given that New York and Pennsylvania together account for more than 40% of contractor hours, there is a clear need for permanent staffing solutions. Clipboard Health could collaborate with healthcare facilities in these states to offer more attractive packages for full-time workers, such as competitive pay, flexible hours, or career development opportunities.
- Identifying the root causes of high contractor reliance in these states is key. Whether it's driven by high patient volumes, staff retention issues, or geographic challenges, understanding these factors can inform targeted solutions.
- States like Ohio, California, and North Carolina, while not the highest, still depend moderately on temporary staffing. Clipboard Health could use workforce analytics to monitor trends in these states and anticipate future staffing needs.

Part 2:

Database: SNOWFLAKE

```
-- 1. Write a query to return the customer_name, product_name, and total_amount for each sale in the last 30 days

SELECT

   customer_name, product_name, total_amount

FROM

   Sales s

   JOIN Customers c on s.customer_id = c.customer_id

   JOIN Products p on p.product_id = s.product_id

WHERE s.sale_date >= DATEADD(DAY,-30,CURRENT_DATE()) ;
```

```
-- 2. Write a query to find the total revenue generated by each product category in the last year. The output should include the product category and the total revenue for that category.

SELECT

   p.category as product_category, SUM(c.total_amount) as total_revenue

FROM

   Sales s
```

```
   JOIN Customers c on s.customer_id = c.customer_id
   JOIN Products p on p.product_id = s.product_id
WHERE s.sale_date >= DATEADD(YEAR,-1,CURRENT_DATE())
GROUP BY p.category
ORDER BY 2 DESC; -- Second column in descending order
```

```
-- 3. Write a query to return all customers who made purchases in 2023 and are located in the "West" region.
SELECT
   c.customer_id, c.customer_name
FROM
   Sales s
   JOIN Customers c on s.customer_id = c.customer_id
WHERE YEAR(s.sale_date) = 2023
   AND c.sales_region = 'West';
```

```
-- 4. Write a query to display the total number of sales, total quantity sold, and total revenue for each customer.
   -- The result should include the customer_name, total sales, total quantity, and total revenue.
SELECT
   c.cutomer_name, count(sale_id) total_sales, sum(quantity) total_quantity, sum(total_amount) total_revenue
FROM
   Sales s
   JOIN Customers c on s.customer_id = c.customer_id
GROUP BY c.customer_name;
```

```
-- 5. Write a query to find the top 3 customers (by total revenue) in the year 2023
SELECT
   TOP 3
   c.customer_name, sum(total_amount) as total_revenue
```

```
FROM
   Sales s
   JOIN Customers c on s.customer_id = c.customer_id
WHERE YEAR(s.sale_date) = 2023
GROUP BY c.customer_name
ORDER BY 2 DESC ;
```

```
-- 6. Write a query to rank products by their total sales quantity in 2023. The result should include the product_name, total quantity sold, and rank
WITH product_sales as (
      SELECT
         p.product_name, sum(s.quantity) total_quantity_sold
      FROM Sales s
         JOIN products p on s.product_id = p.product_id
      WHERE YEAR(s.sale_date) = 2023
      GROUP BY p.product_name
)
SELECT
   ps.product_name, ps.total_quantity_sold, dense_rank() over(order by ps.total_quantity_sold desc) as rank
FROM product_sales ps;
```

```
--7. Write a query that categorizes customers into "New" (if they signed up in the last 6 months) or "Existing" based on their sign_up_date.
   --Include the customer_name, region, and category in the result
SELECT
   c.customer_name, c.sales_region as region,
   CASE WHEN s.sign_up_date >= DATEADD(MONTH,-6,CURRENT_DATE()) THEN 'New' ELSE 'Existing' END as category
FROM Customers c;
```

-- 8. Write a query to return the month and year along with the total sales for each month for the last 12 months.

```
SELECT
   CONCAT(MONTH(s.sale_date),'-',YEAR(s.sale_date)) month_year, COUNT(s.sale_id) total_sales
-- similar syntax for month_year TO_CHAR(CURRENT_DATE,'YYYY-MM')
FROM Sales s
WHERE s.sale_date >= DATEADD(MONTH,-12,CURRENT_DATE())
GROUP BY CONCAT(MONTH(s.sale_date),'-',YEAR(s.sale_date))
ORDER BY 1 DESC;
```

-- 9. Write a query to return the product categories that generated more than $50,000 in revenue during the last 6 months.

```
SELECT
   p.category, sum(s.total_amount) total_revenue
FROM Sales s
   JOIN Products p on s.product_id = p.product_id
WHERE s.sale_date >= DATEADD(MONTH,-6,CURRENT_DATE())
GROUP BY p.category
HAVING sum(s.total_amount) > 50000
ORDER BY 2 DESC;
```

-- 10. Write a query to check for any sales where the total_amount doesn’t match the expected value (i.e., quantity * price)

```
SELECT
   s.sales_id, p.product_name, s.total_amount, (s.quantity * p.price) as expected_value
FROM Sales s
   JOIN Products p on p.product_id = s.product_id
WHERE s.total_amount <> (s.quantity * p.price) ;
```