



Report: Variation in NTSV C-section Rates Among California Hospitals

**Prepared by PBGH to help Members leverage data for
quality improvement**

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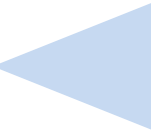


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A. Introduction

Despite widely documented health risks and cost increases associated with cesareans, the C-section rate in California is currently 33% - up nearly 60% from 1997. Alarming, as the C-section rate has risen, maternal and perinatal morbidity has worsened. Furthermore, the dramatic variation in C-section rates among hospitals reflects the overuse of this often avoidable and potentially harmful procedure. Narrowing variation and lowering the average C-section rate will lead to better quality care, improved health outcomes, and reduced costs.

The Pacific Business Group on Health's Call to Member Action: Transform Maternity Care through Cesarean Reductions details four distinct strategies Members can adopt to actively narrow C-section variation and decrease the average C-section rate in California. **Key among the four strategies is the use of quality data by Members to enable them to apply pressure to delivery facilities with high C-section rates, while rewarding those hospitals that meet or exceed standards.** This Report analyzes quality data¹, which were publicly reported for 2013 for California's 247 delivery hospitals, and encourages Members to leverage data for quality improvement.

First on a statewide and then on a regional basis, this Report focuses on variation in the Nulliparous Term Singleton Vertex (NTSV) C-section rates among California hospitals. NTSV births are at lower risk for C-sections as compared to other deliveries because they occur among women who are first-time mothers (Nulliparous), bear a single child at full term (Term Singleton), and have babies positioned head down (Vertex).

California's 2013 NTSV C-section rate was 27.4%, well above the 2020 NTSV benchmark of 23.9% set forth in the Healthy People report issued by the Surgeon General. Currently, only 32% of California hospitals meet this guideline, dropping from 37% in 2012, implying that a high volume of work lies ahead. In terms of variation, the NTSV C-section rate varies, from a low of 11% to a high of 69% - which suggests that a woman's chance of undergoing the procedure depends greatly on where in California she lives and in which facility she gives birth.

The high NTSV C-section rate and its extreme variation among hospitals serve as prime examples of a healthcare system plagued by inconsistent quality and the overuse of avoidable procedures. Fortunately, preliminary data from a PBGH quality improvement pilot demonstrate that a cooperative hospital can significantly reduce its NTSV C-section rate over a relatively short period. Although these findings reflect the work of a single hospital with a strong culture and willingness to address this issue, such a significant reduction in their NTSV C-section rate sends a positive signal² to the market.

¹ Hospital data collected by the California Maternal Quality Care Collaborative (CMQCC) and reported to CalQualityCare.org.

² Pilots funded through the Robert Wood Johnson Foundation. Data are preliminary and based on findings over a six-month period at one Southern California hospital. PBGH partnered with the CMQCC to deliver quality improvement support.



Using the data in this Report, Members can engage in collective action to promote a high value maternity care system that moderates costs, improves birth outcomes, and, ultimately, makes mothers and families healthier.

B. Rising C-section Rate in Context

C-sections are clinically recommended for an estimated 15% of births, yet today about 33% of all women deliver by C-section.³ Between 1997 and 2008, the national C-section rate rose from 21% to 33%, an increase of nearly 60%. This increase occurred across all demographics, ethnicities, and health profiles (such as high BMI and advanced maternal age).

Disconcertingly, the sharpest increase in C-sections occurred among women with the lowest-risk pregnancies.⁴ Given the low rates of vaginal birth after a cesarean section, once a woman undergoes her first C-section, she is extremely likely to continue to have them in subsequent births⁵ - exacerbating the problem.

Exhibit 1: Overall US C-section Rate, National Center of Vital Statistics

Rapidly Rising C-section Rate	
•	1965 / 4.5%
•	1980 / 16.9%
•	1997 / 21%
•	2008 / 33%
•	2014 / 33%

According to the National Partnership for Women and Families, the following factors contribute to the high C-section rate:

- Most hospital environments are not conducive to letting labor take its natural course
- Risks associated with common labor interventions (epidural, Pitocin) accumulate
- There are increasingly casual attitudes and limited awareness about the harms associated with this surgery
- Variation exists in physician training and practice style

³ Main, E. "Cesarean Deliveries, Outcomes, and Opportunities for Change in California: Toward a Public Agenda for Maternity Care Safety and Quality." California Maternal Quality Care Collaborative, 2011, <<https://www.cmqcc.org/resources/2079>>

⁴ Macdorman, M.F. (2008). Cesarean Birth in the United States: Epidemiology, Trends, and Outcomes. *Clin Perinatol*, 35: 293-307.

⁵ *Ibid.*



- Misaligned incentives benefit providers, including compensation and convenience⁶

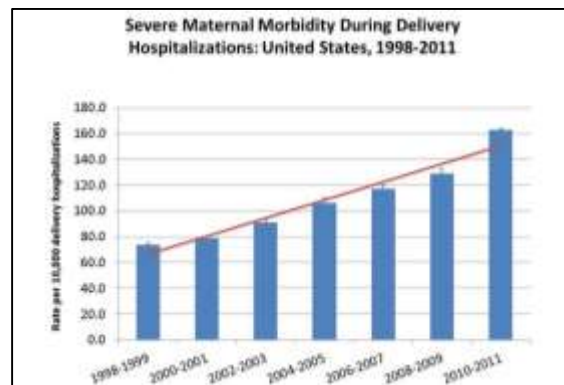
The current C-section rate reflects a hospital's labor management practices, which impact patient experience and healthcare spending. Dissecting variation in C-section rates provides a glimpse into the inconsistent quality and erratic nature of care received by laboring women.

C. Health & Cost Impacts

NTSV C-sections occur among the healthiest and lowest risk populations and are associated with increased morbidity. For example, healthy, pregnant women who undergo C-sections that are not medically indicated are more likely to experience complications than those who deliver vaginally. Given the low rates of vaginal birth after a C-section, once a woman undergoes a C-section she is very likely to continue to have them in subsequent births. Additionally, women who undergo C-sections have a longer recovery time and lower satisfaction with their birth experience.^{7 8}

Unfortunately, the rise in C-sections has also paralleled adverse changes in maternal and perinatal health outcomes. Research from the Center for Disease Control (CDC) suggests that mothers and babies are more likely to experience severe morbidity during birth today than they were 15 years ago, when the C-section rate was lower (Exhibit 2).

Exhibit 2: US Increase in Severe Maternal Morbidity, 1998 – 2011, CDC



In terms of the cost impact, the frequency of childbirth and the cost per birth explain why deliveries comprise one of the largest portions of a hospital's bill to both private insurers and Medicaid.⁹ In California, C-sections cost on average twice as much as vaginal births, serving to further exacerbate

⁶ For more information about the causes of the escalating C-section rate, see *Why Is the National U.S. Cesarean Section Rate So High?* Accessible at <http://www.childbirthconnection.org/article.asp?ck=10456&ClickedLink=274&area=27>.

⁷ Kuklina, EV et al. (2009) Severe obstetric morbidity in the United States: 1998-2005. *Obstet Gynecol.* 113 (2 Part I):293-9.

⁸ Weisman, O., et al. (2010). The experience of labor, maternal perception of the infant, and the mother's postpartum mood in a NTSV community cohort. *Arch Women's Ment Health.* (6): 505:1.

⁹ Statistical Brief #160. Healthcare Cost and Utilization Project (HCUP). August 2013. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb160.jsp.

costs.¹⁰ **Any time a C-section can be prevented, payers save up to \$10,000.**¹¹ Even a small reduction in the number of C-sections can translate into large savings for a Member.

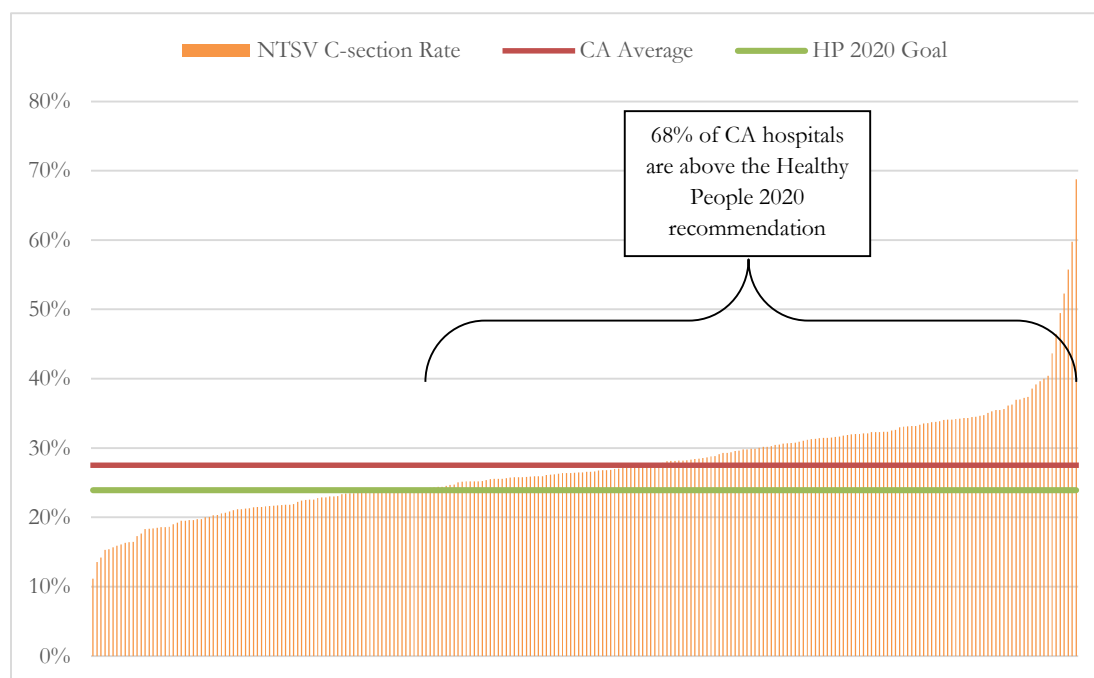
D. California Statewide Key Findings

This section summarizes four key statewide findings. Section E provides a detailed analysis of NTSV C-section rates by California region.

1. Variation among hospital NTSV C-section rates is strikingly high. Throughout California, hospital NTSV C-section rates range dramatically from 11% to 69%: about a 60 percentage point spread! This means that the facility in which a mother gives birth plays a significant role in influencing her chance of undergoing a C-section.

As Exhibit 3 depicts, 68% of all California hospitals do not meet the Healthy People NTSV C-section rate recommendation of 23.9%, suggesting that there is a significant opportunity to make improvements.

*Exhibit 3: NTSV C-section Rate All California Hospitals, 2013**



**Each line represents one of California's 247 hospitals reporting live births.*

¹⁰ Hsia, R. et al. (2014). Analysis of variation in charges and prices paid for vaginal and caesarean section births: a cross-sectional study. *BMJ Open* 4:e004017.

¹¹ Truven Health Analytics. (2013). The cost of having a baby in the United States.

2. Differences in the NTSV C-section rate within regions are extreme. The most widespread case in California is in the Los Angeles region, which has the highest average NTSV C-section rate (33.1%) and the highest percentage point difference between low and high-performing hospitals (49 point difference). This means that within the Los Angeles region, mothers can have vastly different delivery experiences. In contrast, the North Bay region has the lowest NTSV C-section rate (22.1%) and the lowest percentage points spread between low and high-performing hospitals (10 point difference). These data suggest that mothers delivering in the North Bay experience more consistent care.

To provide a high-level summary of the performance and size of each region, Exhibit 4 compiles basic NTSV C-section variation data for each region.

Exhibit 4: Comparison of C-section Performance By Region, 2013

Region	Total Hospitals	Average Hospital C-section Rate	Hospitals Above CA Average	Hospitals Below HP 2020	Percentage Point Difference (Range)	Total Live Births
1 Northern California	17	26.7%	6 (35%)	6 (35%)	18.8	9,757
2 Golden Empire	16	23.0%	2 (13%)	8 (50%)	16.3	30,686
3 North Bay	10	22.1%	0 (0%)	7 (70%)	10.1	10,170
4 West Bay	10	22.7%	2 (20%)	6 (60%)	17.6	18,899
5 East Bay	14	25.1%	5 (36%)	5 (36%)	20.9	28,762
6 North San Joaquin	15	27.6%	7 (47%)	3 (20%)	19.5	21,866
7 Santa Clara	10	24.7%	2 (20%)	5 (50%)	17.4	26,821
8 Mid-Coast	11	25.6%	3 (27%)	4 (36%)	29.3	11,983
9 Central	17	26.8%	10 (59%)	5 (29%)	18.4	36,885
10 Santa Barbara	8	25.7%	3 (38%)	3 (38%)	13.9	15,353
11 Los Angeles	57	33.1%	39 (68%)	2 (4%)	49.2	133,226
12 Inland Counties	29	26.1%	10 (34)	13 (45%)	20.7	52,799
13 Orange	17	28.0%	10 (59%)	3 (18%)	15.9	39,260
14 San Diego/Imperial	16	28.3%	8 (50%)	4 (25%)	19.7	43,570

3. The range of hospital NTSV C-section rates varies significantly from region to region.

Hospitals in Southern California regions have higher NTSV C-section rates than those in Northern California. For example, the San Francisco Bay Area (including the North Bay, West Bay, East Bay, and Santa Clara Regions) has an average NTSV C-section rate of 23.8% which is almost ten percentage points lower than the Los Angeles region's average rate of 33.1%. These data suggest that, on average, women who give birth in LA hospitals are 39% more likely to have a C-section than women who deliver in the San Francisco Bay Area. These data also suggest that hospitals in certain California regions are more likely to perform unnecessary C-sections.

4. No association exists between volume of deliveries and NTSV C-section rates.

Several exemplary hospitals maintain low NTSV C-section rates even though they have a high number of live births. These sites demonstrate that a hospital can achieve a low C-section rate irrespective of total annual births.



E. Analysis of C-section Variation by Region

Regional Breakdown

This section provides a detailed analysis of NTSV C-section variation for all 247 labor and delivery units in California. To facilitate reading, these hospitals have been divided into 14 California regions based on Health Service Areas used by California’s Office of Statewide Health Planning and Development: Northern California, Golden Empire, North Bay, West Bay, East Bay, North San Joaquin, Santa Clara, Mid-Coast, Central, Santa Barbara, Los Angeles, Inland Counties, Orange, San Diego/Imperial (see Exhibit 5).

Exhibit 5: Map of California Health Service Areas



Data Breakdown

Each regional breakdown includes the 2013 NTSV C-section rate for each local hospital as reported by California HealthCare Foundation's CalQualityCare.org, as well as the number of live births which hospitals reported to the California Office of Statewide Health Planning and Development for the same year. **The NTSV C-section rate serves as a better quality indicator than the overall C-section rate** because it controls for variables that contribute to higher C-section rates (such as previous C-section, breech position, and multiple births). The low-risk C-section rate is also an important quality indicator for the future, as the first birth impacts a woman's subsequent deliveries.

As an additional quality indicator, the analyses include the status of each hospital's participation in a maternal data registry. California is fortunate to have a state maternal data center that allows hospitals to directly and automatically report birth data for tracking. The specificity and timeliness of information collected by the California Maternal Data Center (MDC)¹² promotes the transparency necessary to reduce variation in maternity care. As of October, 2015, 60% of the 247 California hospitals with labor and delivery units are submitting data to the California MDC.

Each regional analysis includes a summary of these key statistics:

- The regional average NTSV C-section rate
- Total number of hospitals
- Total live births
- Level of participation in the California MDC

¹² Stanford's California Maternal Quality Care Collaborative (CMQCC) manages the California Maternal Data Center.

Region 1: Northern California NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	26.7%
Number of Hospitals	17
Number/Percent of Hospitals Above California NTSV Average	6/35%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	6/35%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	18.8
Total Live Births	9,757

➤ Northern CA has the fewest total number of annual births out of all regions in the state.

Exhibit 1A: Graph of Northern California NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 1B which lists all the hospitals in the region by ascending NTSV C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

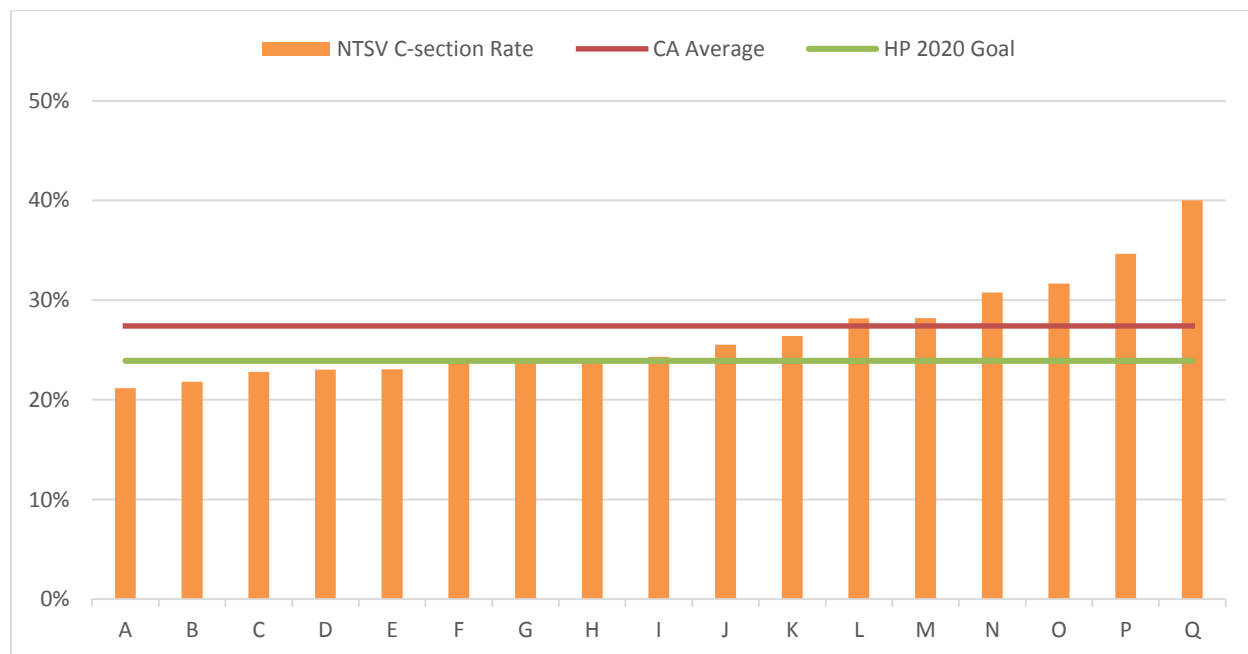


Exhibit 1B: Northern California NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Mercy Medical Center Mt. Shasta	21.2%	181	In Process
B	Enloe Medical Center- Esplanade Campus	21.8%	1554	Submitting Data
C	St. Joseph Hospital - Eureka	22.8%	564	Submitting Data
D	Redwood Memorial Hospital	23.0%	370	Submitting Data
E	Mad River Community Hospital	23.1%	571	Not submitting
F	St. Helena Hospital Clearlake	23.7%	171	Not submitting
G	Oroville Hospital	23.9%	426	Not submitting
H	Fairchild Medical Center	23.9%	188	Not submitting
I	St. Elizabeth Community Hospital	24.3%	745	In Process
J	Feather River Hospital	25.5%	890	Not submitting
K	Ukiah Valley Medical Center/Hospital Drive	26.4%	815	Not submitting
L	Mercy Medical Center - Redding	28.2%	2036	In Process
M	Sutter Lakeside Hospital	28.2%	335	In Process
N	Banner Lassen Medical Center	30.8%	266	Not submitting
O	Mendocino Coast District Hospital	31.7%	151	Not submitting
P	Sutter Coast Hospital	34.7%	341	In Process
Q	Colusa Regional Medical Center	40.0%	153	Not submitting



Region 2: Golden Empire NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	23.0%
Number of Hospitals	16
Number/Percent of Hospitals Above California NTSV Average	2/13%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	8/50%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	16.3
Total Live Births	30,686

Exhibit 2A: Graph of Golden Empire NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 2B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

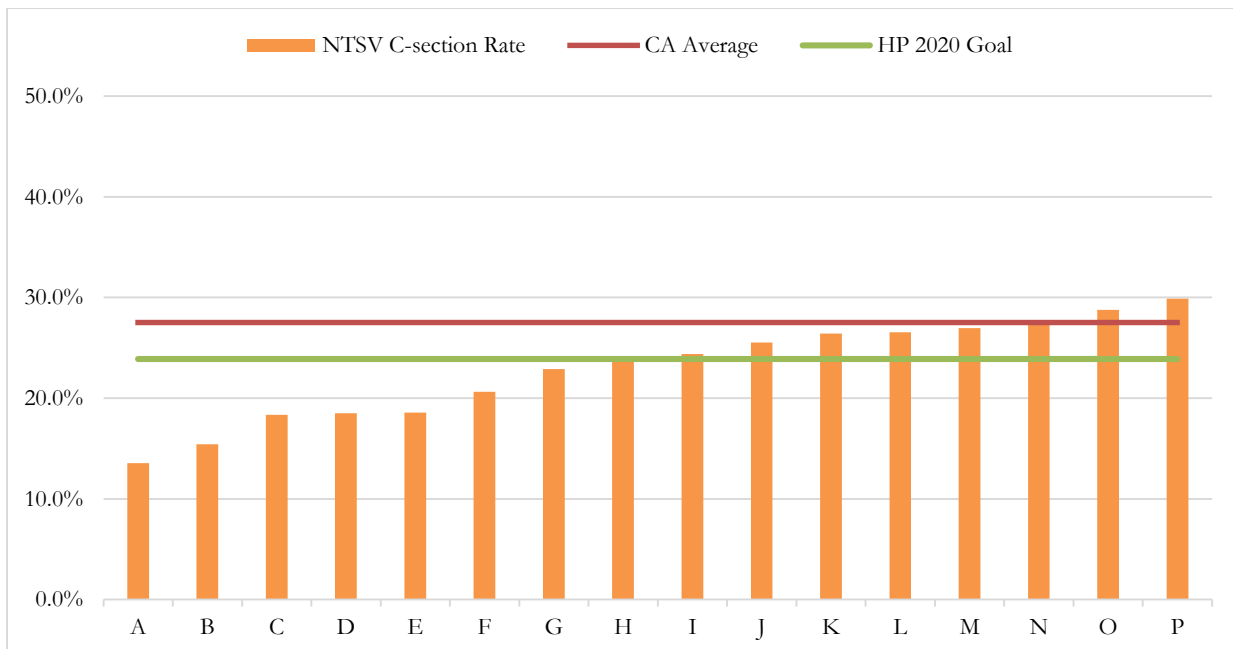


Exhibit 2B: Golden Empire NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Sutter Davis Hospital	13.5%	1408	In Process
B	Kaiser Permanente - South Sacramento Medical Center	15.4%	2362	Submitting Data
C	Kaiser Permanente - Roseville Medical Center	18.4%	5101	Submitting Data
D	Sierra Nevada Memorial Hospital	18.5%	504	In Process
E	Woodland Memorial Hospital	18.6%	737	In Process
F	Mercy Hospital - Folsom	20.6%	962	In Process
G	Fremont Medical Center	22.9%	2029	Not submitting
H	University Of California Davis Medical Center	23.8%	1759	Not submitting
I	Tahoe Forest Hospital	24.4%	371	Not submitting
J	Methodist Hospital Of Sacramento	25.5%	1814	In Process
K	Sutter Roseville Medical Center	26.4%	3039	Submitting Data
L	Sutter Memorial Hospital	26.6%	5549	Submitting Data
M	Mercy General Hospital	27.0%	1991	In Process
N	Barton Memorial Hospital	27.4%	307	In Process
O	Mercy San Juan Hospital	28.8%	2294	In Process
P	Marshall Medical Center (1-Rh)	29.9%	459	Not submitting



Region 3: North Bay NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean C-section NTSV Rate	22.1%
Number of Hospitals	10
Number/Percent of Hospitals Above California NTSV Average	0
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	7/70%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	10.1
Total Live Births	10,170

➤ The North Bay region has the lowest C-section rate in the state with an average rate of 22.1%.

Exhibit 3A: Graph of North Bay C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer Exhibit 3B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

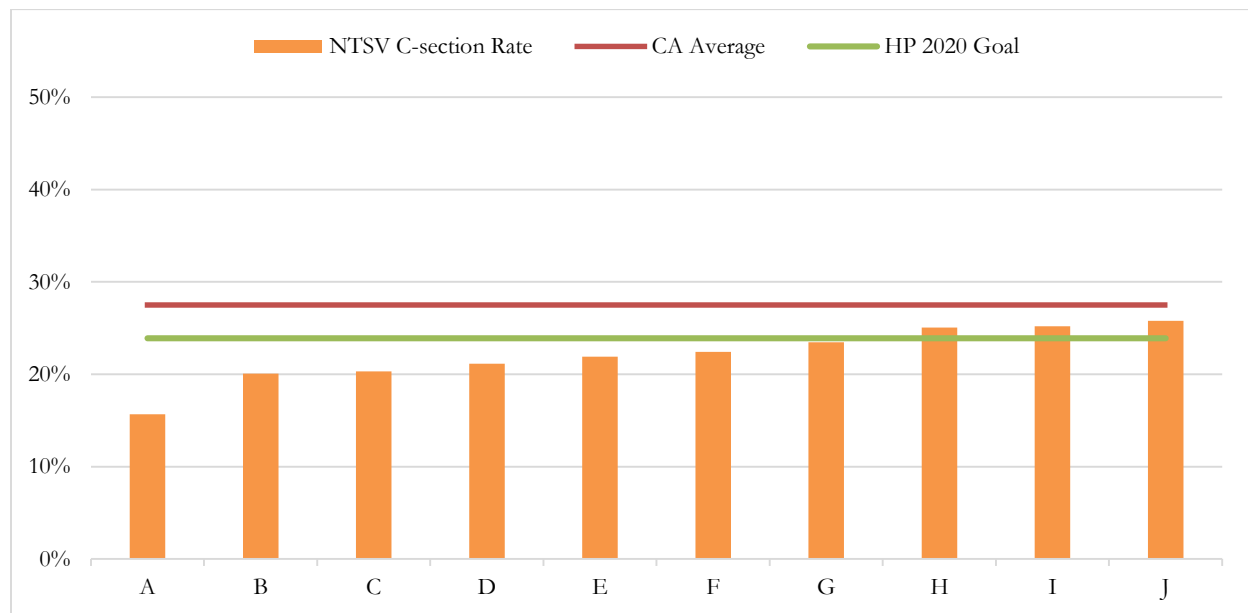


Exhibit 3B: North Bay C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Sutter Medical Center Of Santa Rosa	15.7%	1592	In Process
B	Kaiser Permanente - Santa Rosa Medical Center	20.1%	1898	Submitting Data
C	Kaiser Permanente - Vallejo Medical Center	20.3%	2248	Submitting Data
D	Sonoma Valley Hospital	21.2%	156	Not submitting
E	Sutter Solano Medical Center	21.9%	653	In Process
F	Petaluma Valley Hospital	22.4%	433	Submitting Data
G	St. Helena Hospital	23.5%	230	Not submitting
H	North Bay Medical Center	25.1%	1351	Submitting Data
I	Queen Of The Valley Hospital - Napa	25.2%	728	Submitting Data
J	Santa Rosa Memorial Hospital-Montgomery	25.8%	881	Submitting Data

Region 4: West Bay NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	22.7%
Number of Hospitals	10
Number/Percent of Hospitals Above California NTSV Average	2/20%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	6/60%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	17.6
Total Live Births	18,899

➤ One of every seven births in the West Bay occurs in two hospitals with C-section rates over 30%.

Exhibit 4A: Graph of West Bay NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 4B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

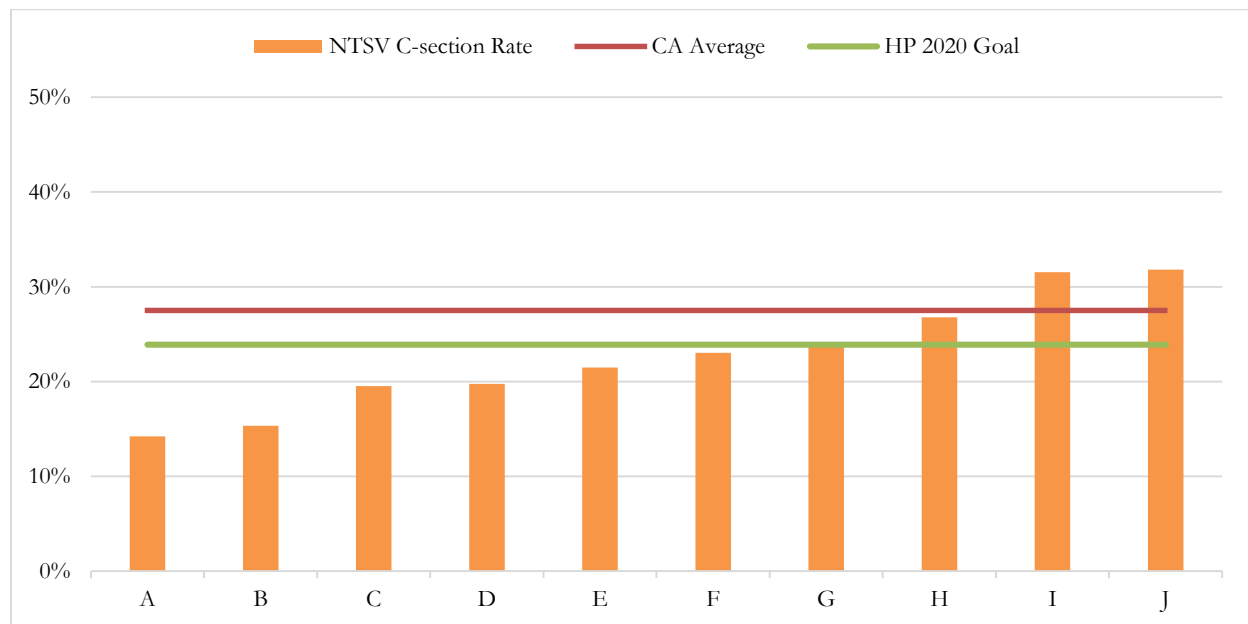


Exhibit 4B: West Bay C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Kaiser Permanente - Redwood City Medical Center	14.2%	1478	Submitting Data
B	San Francisco General Hospital	15.3%	1087	Not submitting
C	California Pacific Medical Center - St. Luke's Campus	19.5%	954	Submitting Data
D	University of California, San Francisco Medical Center	19.7%	2022	Not submitting
E	Kaiser Permanente - San Francisco Medical Center	21.5%	2701	Submitting Data
F	Marin General Hospital	23.0%	1345	Not submitting
G	California Pacific Med Center- California West	24.0%	5160	Submitting Data
H	Sequoia Hospital	26.8%	1599	In Process
I	Seton Medical Center	31.5%	593	Not submitting
J	Mills-Peninsula Medical Center	31.8%	1960	Submitting Data

Region 5: East Bay NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	25.1%
Number of Hospitals	14
Number/Percent of Hospitals Above California NTSV Average	5/36%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	5/36%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	20.9
Total Live Births	28,762

- Multiple hospitals in this region, including Kaiser Permanente Walnut Creek and Alta Bates Hospital, have NTSV C-section rates under or at the Healthy People Recommendation and a significant amount of births annually (>2500). This suggests that it is possible to maintain low C-section rates and have a high volume of live births.

Exhibit 5A: Graph of East Bay C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 5B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.



Exhibit 5B: East Bay NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	St. Rose Hospital	16.4%	837	Not submitting
B	John Muir Medical Center-Walnut Creek Campus	18.3%	2826	In Process
C	Kaiser Permanente - Antioch Medical Center	20.0%	1500	Submitting Data
D	Alta Bates Summit Medical Center	21.3%	7071	Submitting Data
E	Alameda County Medical Center	22.5%	1327	Not submitting
F	Kaiser Permanente - Walnut Creek Medical Center	23.9%	3648	Submitting Data
G	Sutter Delta Medical Center	24.2%	976	In Process
H	Washington Hospital - Fremont	24.3%	1843	Not submitting
I	Contra Costa Regional Medical Center	25.2%	1912	Not submitting
J	Kaiser Permanente - Hayward Medical Center	27.7%	2621	
K	Kaiser Permanente - Oakland Medical Center	29.3%	2204	Submitting Data
L	Eden Medical Center	29.6%	1250	In Process
M	Valleycare Medical Center	32.1%	1138	
N	San Ramon Regional Medical Center	37.4%	747	Submitting Data

Region 6: North San Joaquin NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	27.6%
Number of Hospitals	15
Number/Percent of Hospitals Above California NTSV Average	7/47%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	3/20%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	19.5
Total Live Births	21,866

➤ 50% of all births in this region occur in the hospitals with C-section rates over the California average.

Exhibit 6A: Graph of North San Joaquin NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 6B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

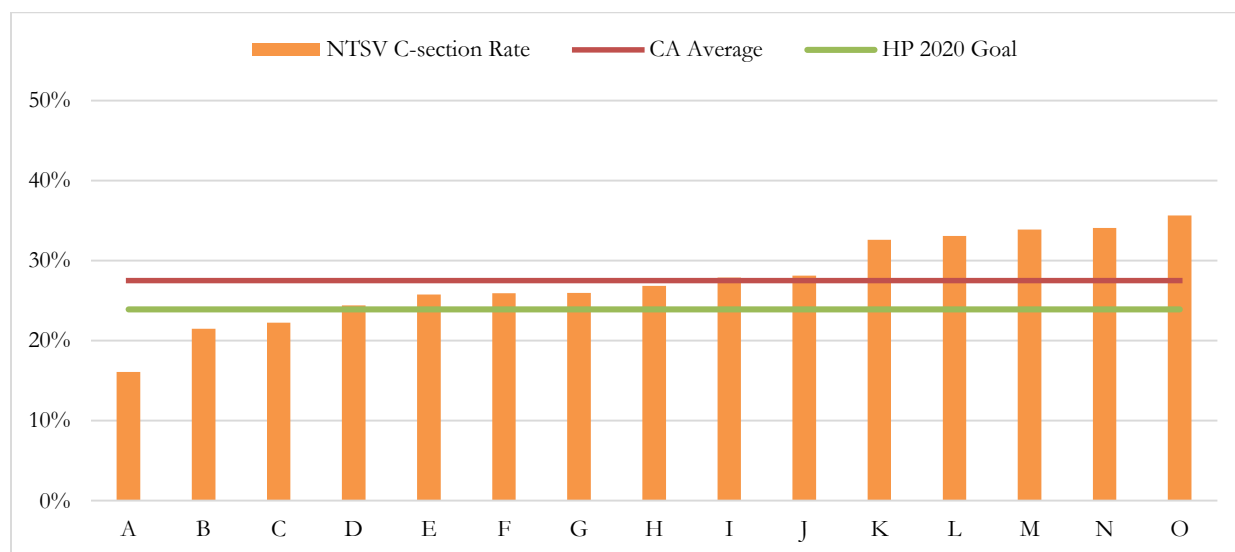


Exhibit 6B: North San Joaquin NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Emanuel Medical Center	16.1%	1336	Not submitting
B	Kaiser Permanente - Modesto Medical Center	21.5%	2384	Submitting Data
C	Sutter Amador Hospital	22.2%	303	In Process
D	San Joaquin General Hospital	24.4%	1832	Not submitting
E	Lodi Memorial Hospital	25.8%	1034	Not submitting
F	St. Joseph's Medical Center Of Stockton	25.9%	2336	In Process
G	Sutter Tracy Community Hospital	25.9%	627	In Process
H	Dameron Hospital	26.9%	1299	Submitting Data
I	Doctors Medical Center	27.9%	4019	Submitting Data
J	Doctors Hospital Of Manteca	28.1%	708	Submitting Data
K	Oak Valley District Hospital (2-Rh)	32.6%	121	Not submitting
L	Memorial Hospital Medical Center - Modesto	33.1%	1852	In Process
M	Mercy Medical Center - Merced	33.9%	2740	In Process
N	Memorial Hospital Los Banos	34.1%	732	In Process
O	Sonora Regional Medical Center - Greenley	35.6%	543	Submitting Data

Region 7: Santa Clara NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	24.7%
Number of Hospitals	10
Number/Percent of Hospitals Above California NTSV Average	2/20%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	5/50%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	17.4
Total Live Births	26,821

➤ The two hospitals with the highest C-section rates account for 30% of all births in the region.

Exhibit 7A: Graph of Santa Clara NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 7B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

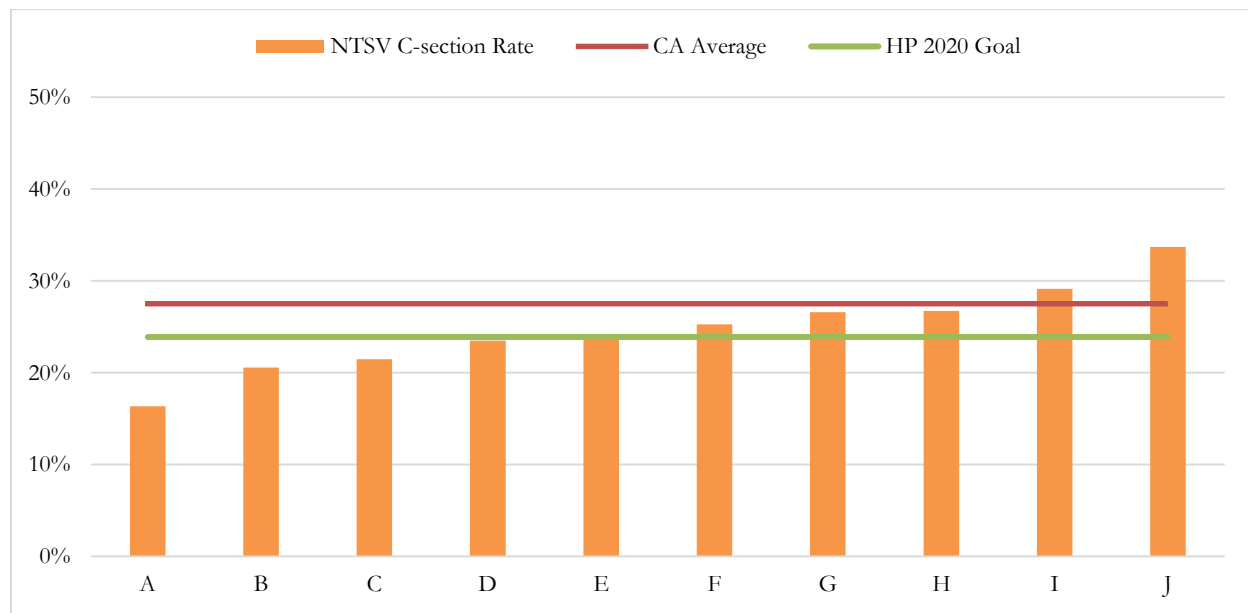


Exhibit 7B: Santa Clara NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	El Camino Hospital Los Gatos	16.3%	741	Submitting Data
B	St. Louise Regional Hospital	20.6%	551	Not submitting
C	Kaiser Permanente - San Jose Medical Center	21.5%	2110	Submitting Data
D	O'Connor Hospital - San Jose	23.5%	3245	Not submitting
E	Lucile Salter Packard Children's Hospital	23.7%	4044	In Process
F	Santa Clara Valley Medical Center	25.2%	3543	Submitting Data
G	Kaiser Permanente - Santa Clara Medical Center	26.6%	4389	Submitting Data
H	Regional Medical Center Of San Jose	26.7%	359	Not submitting
I	El Camino Hospital	29.1%	4258	Submitting Data
J	Good Samaritan Hospital-San Jose	33.7%	3581	Not submitting

Region 8: Mid-Coast NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	25.6%
Number of Hospitals	11
Number/Percent of Hospitals Above California NTSV Average	3/27%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	4/36%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	29.3
Total Live Births	11,983

Exhibit 8A: Graph of NTSV Mid-Coast C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 8B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

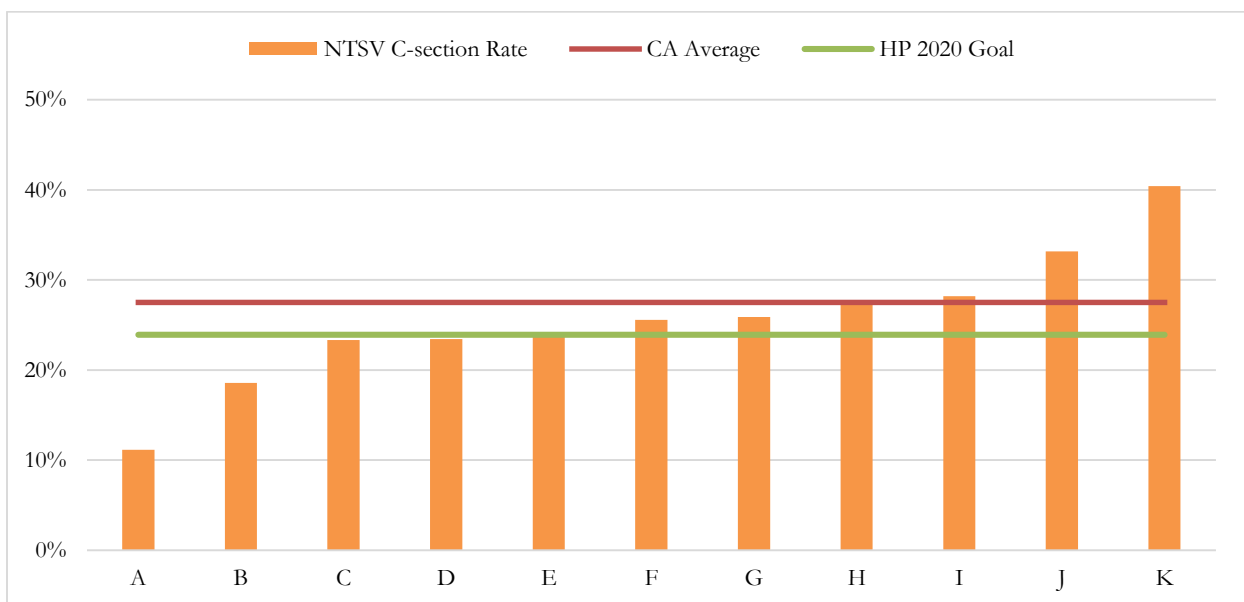


Exhibit 8B: Mid-Coast NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Twin Cities Community Hospital	11.2%	697	Submitting Data
B	Sutter Maternity And Surgery Center Of Santa Cruz	18.6%	924	In Process
C	Dominican Hospital-Santa Cruz/Soquel	23.3%	714	In Process
D	George L Mee Memorial Hospital	23.4%	524	Not submitting
E	Natividad Medical Center	24.1%	2508	Submitting Data
F	Salinas Valley Memorial Hospital	25.6%	1821	Not submitting
G	French Hospital Medical Center	25.9%	584	In Process
H	Watsonville Community Hospital	27.5%	1264	Not submitting
I	Community Hospital Monterey Peninsula	28.2%	1216	Not submitting
J	Sierra Vista Regional Medical Center	33.2%	1284	Submitting Data
K	Hazel Hawkins Memorial Hospital	40.4%	447	Not submitting

Region 9: Central C-section NTSV Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	26.8%
Number of Hospitals	17
Number/Percent of Hospitals Above California NTSV Average	10/59%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	5/29%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	18.4
Total Live Births	36,885

➤ This region has particularly high annual birth volumes, averaging 2,459 births per hospital.

Exhibit 9A: Graph of Central NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 9B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

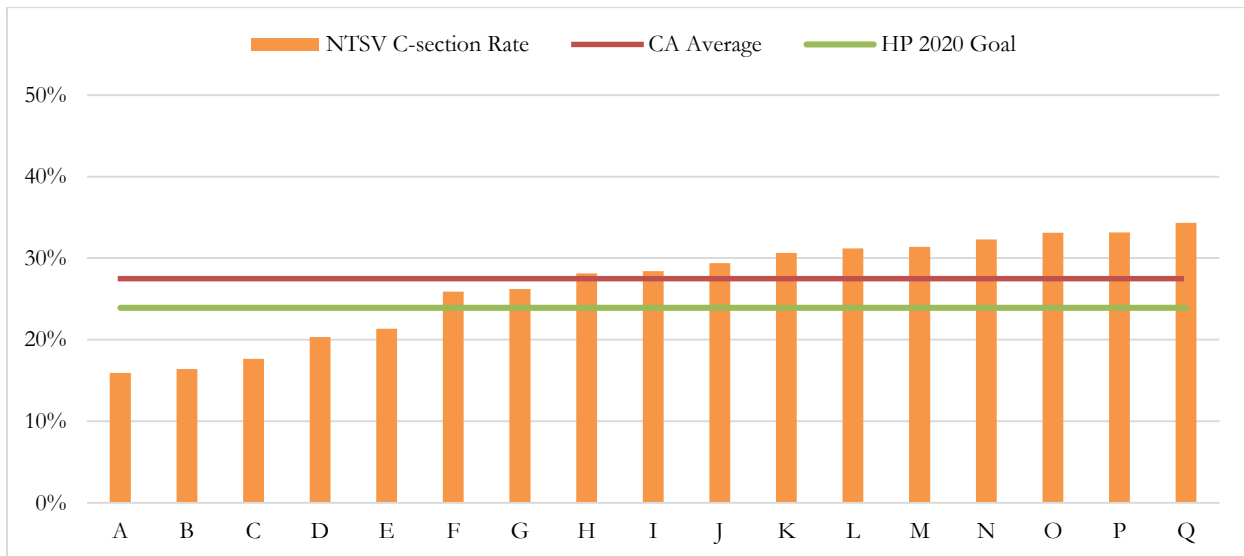


Exhibit 9B: Central C-section NTSV Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Bakersfield Memorial Hospital- 34th Street	15.9%	2477	In Process
B	Adventist Medical Center-Selma	16.4%		Not submitting
C	San Joaquin Community Hospital	17.6%	3080	Not submitting
D	Sierra View District Hospital	20.3%	1627	Submitting Data
E	Kern Medical Center	21.3%	3178	Not submitting
F	Community Regional Medical Center-Fresno	25.9%	5902	Submitting Data
G	Tulare Regional Medical Center	26.2%	1230	Not submitting
H	Mercy Southwest Hospital	28.2%	2463	In Process
I	Kaiser Permanente - Fresno Medical Center	28.4%	1136	Submitting Data
J	Adventist Medical Center - Reedley	29.4%	1177	Not submitting
K	Delano Regional Medical Center	30.6%	820	Not submitting
L	Clovis Community Medical Center	31.2%	4255	Submitting Data
M	Madera Community Hospital	31.4%	1585	Submitting Data
N	Kaweah Delta Medical Center	32.3%	4109	Submitting Data
O	St. Agnes Medical Center	33.1%	3400	Not submitting
P	Central Valley General Hospital	33.2%		Not submitting
Q	Ridgecrest Regional Hospital	34.3%	446	Not submitting

Region 10: Santa Barbara NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	27.5%
Number of Hospitals	8
Number/Percent of Hospitals Above California NTSV Average	3/38%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	3/38%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	13.9
Total Live Births	15,353

Exhibit 10A: Graph of Santa Barbara NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 10B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

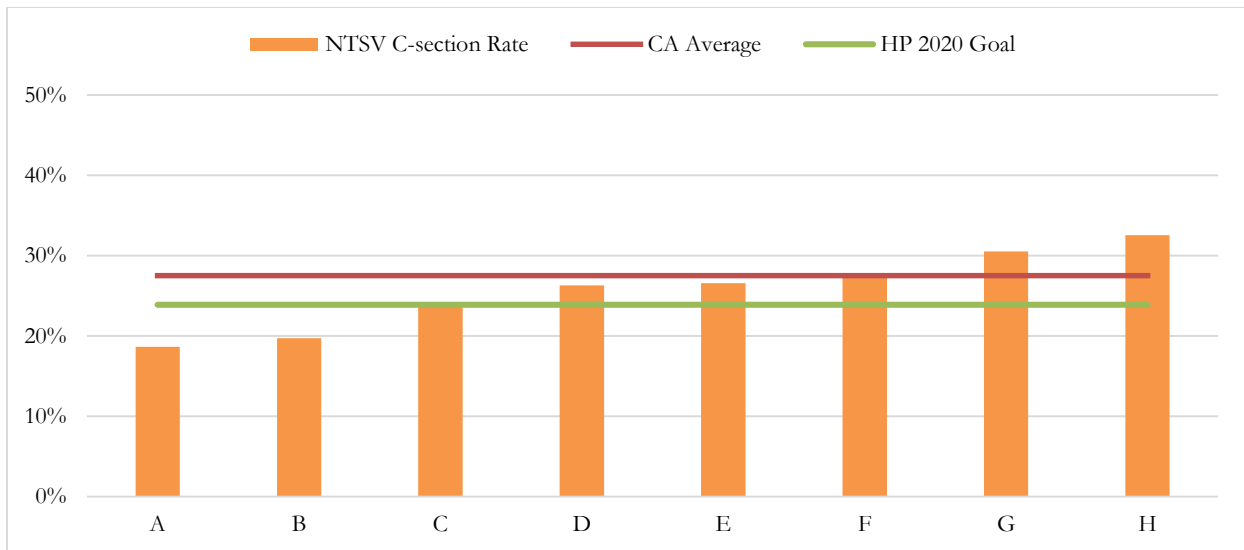


Exhibit 10B: Santa Barbara NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Ventura County Medical Center & Santa Paula Hospital	18.6%	2111	Not submitting
B	Lompoc Valley Medical Center	19.7%	465	Not submitting
C	Community Memorial Hospital-San Buenaventura	23.7%	2591	Submitting Data
D	Simi Valley Hospital	26.3%	591	Not submitting
E	Marian Regional Medical Center	26.6%	2903	In Process
F	Santa Barbara Cottage Hospital	27.7%	2349	Not submitting
G	St. John's Regional Medical Center	30.5%	2430	In Process
H	Los Robles Hospital And Medical Center	32.5%	1913	Not submitting

Region 11: Los Angeles NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	33.1%
Number of Hospitals	57
Number/Percent of Hospitals Above California NTSV Average	39/68%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	2/4%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	49.2
Total Live Births	133,226

- By far the most densely populated region, 96% of all births occur in hospitals with low risk C-section rates above the HP 2020 guidelines.

Exhibit 11A: Graph of Los Angeles NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 11B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

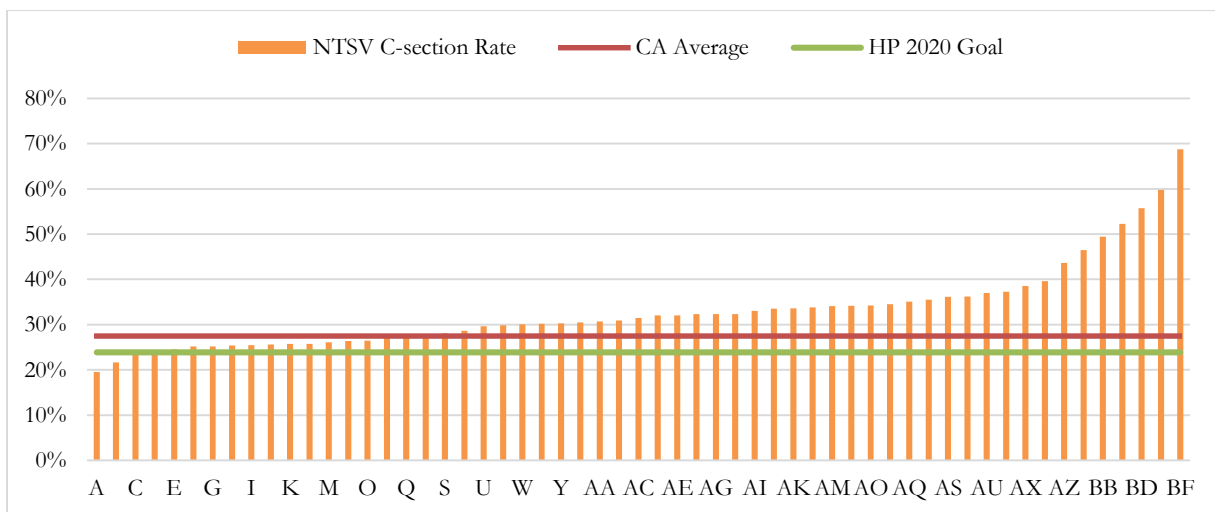


Exhibit 11B: Los Angeles NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Henry Mayo Newhall Memorial Hospital	19.5%	1203	Submitting Data
B	Kaiser Permanente - Panorama City Medical Center	21.7%	2036	In Process
C	Kaiser Permanente - Los Angeles Medical Center	23.9%	2487	In Process
D	Downey Regional Medical Center	24.1%	1332	Not submitting
E	Pomona Valley Hospital Medical Center	24.6%	6492	Submitting Data
F	California Hospital Medical Center - Los Angeles	25.2%	4183	In Process
G	Kaiser Permanente - Downey Medical Center	25.2%	3658	In Process
H	Providence Little Company Of Mary Mc - San Pedro	25.4%	625	Submitting Data
I	Kaiser Permanente - Baldwin Park Medical Center	25.5%	2812	In Process
J	Providence Holy Cross Medical Center	25.6%	3017	Submitting Data
K	Kaiser Permanente - Woodland Hills Medical Center	25.7%	1651	In Process
L	Lac/Harbor-UCLA Medical Center	25.8%	764	Not submitting
M	Kaiser Permanente - South Bay Medical Center	26.1%	2123	In Process
N	Centinela Hospital Medical Center	26.4%	833	Not submitting
O	White Memorial Medical Center	26.5%	4052	Not submitting
P	Los Angeles County Olive View-UCLA Medical Center	27.1%	529	Not submitting
Q	Ronald Reagan UCLA Medical Center	27.1%	1914	Not submitting
R	Methodist Hospital Of Southern California	27.5%	1805	Not submitting
S	Presbyterian Intercommunity Hospital	28.1%	4037	Not submitting
T	Citrus Valley Medical Center - Qv Campus	28.6%	4100	Not submitting
U	Good Samaritan Hospital-Los Angeles	29.6%	3896	Submitting Data

V	Santa Monica UCLA Medical Center And Orthopaedic Hospital	29.8%	1735	Not submitting
W	St. Mary Medical Center	30.0%	2616	In Process
X	Los Angeles County And USC Medical Center	30.2%	997	Not submitting
Y	Hollywood Presbyterian Medical Center	30.2%	3764	Submitting Data
Z	Kaiser Permanente - West La Medical Center	30.5%	1835	In Process
AA	Cedars Sinai Medical Center	30.7%	6704	Submitting Data
AB	Glendale Adventist Medical Center - Wilson Terrace	30.9%	2411	Not submitting
AC	Huntington Memorial Hospital	31.5%	3044	Submitting Data
AD	Pacific Alliance Medical Center, Inc.	32.0%	2356	Not submitting
AE	College Medical Center	32.0%	507	In Process
AF	Garfield Medical Center	32.3%	4217	Submitting Data
AG	St. Johns Health Center	32.3%	1693	In Process
AH	San Gabriel Valley Medical Center	32.3%	2804	Submitting Data
AI	Long Beach Memorial Medical Center	33.0%	5934	Submitting Data
AJ	West Hills Hospital And Medical Center	33.5%	808	Not submitting
AK	Whittier Hospital Medical Center	33.6%	2749	Submitting Data
AL	Glendale Memorial Hospital And Health Center	33.8%	1854	In Process
AM	St. Francis Medical Center	34.1%	4958	Not submitting
AN	Providence Little Company Of Mary Mc - Torrance	34.2%	2717	Submitting Data
AO	Torrance Memorial Medical Center	34.2%	3082	In Process
AP	Valley Presbyterian Hospital	34.5%	3572	Submitting Data
AQ	Providence Saint Joseph Medical Center	35.1%	2649	Submitting Data
AR	Providence Tarzana Medical Center	35.5%	2417	Submitting Data
AS	Antelope Valley Hospital	36.1%	5525	Submitting Data
AT	Northridge Hospital Medical Center	36.2%	1502	In Process

AU	San Dimas Community Hospital	37.0%	416	Not submitting
AV	Verdugo Hills Hospital	37.2%	600	Not submitting
AX	Greater El Monte Community Hospital	38.6%	572	Submitting Data
AY	Foothill Presbyterian Hospital-Johnston Memorial	39.6%	866	Not submitting
AZ	Beverly Hospital	43.7%	755	Not submitting
BA	Monterey Park Hospital	46.5%	1409	Submitting Data
BB	Memorial Hospital Of Gardena	49.5%	1139	Not submitting
BC	Pacifica Hospital Of The Valley	52.3%	424	Not submitting
BD	East Valley Hospital Medical Center	55.7%	189	Not submitting
BE	East Los Angeles Doctors Hospital	59.8%	758	Not submitting
BF	Los Angeles Community Hospital	68.8%	99	Not submitting

Region 12: Inland Counties NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	26.1%
Number of Hospitals	29
Number/Percent of Hospitals Above California NTSV Average	10/34%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	13/45%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	20.7
Total Live Births	52,799

- *Inland Counties has six high volume hospitals (delivering 2,500 babies or more) with C-section rates performing better than the Healthy People 2020 guidelines.*

Exhibit 12A: Graph of Inland Counties NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 12B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

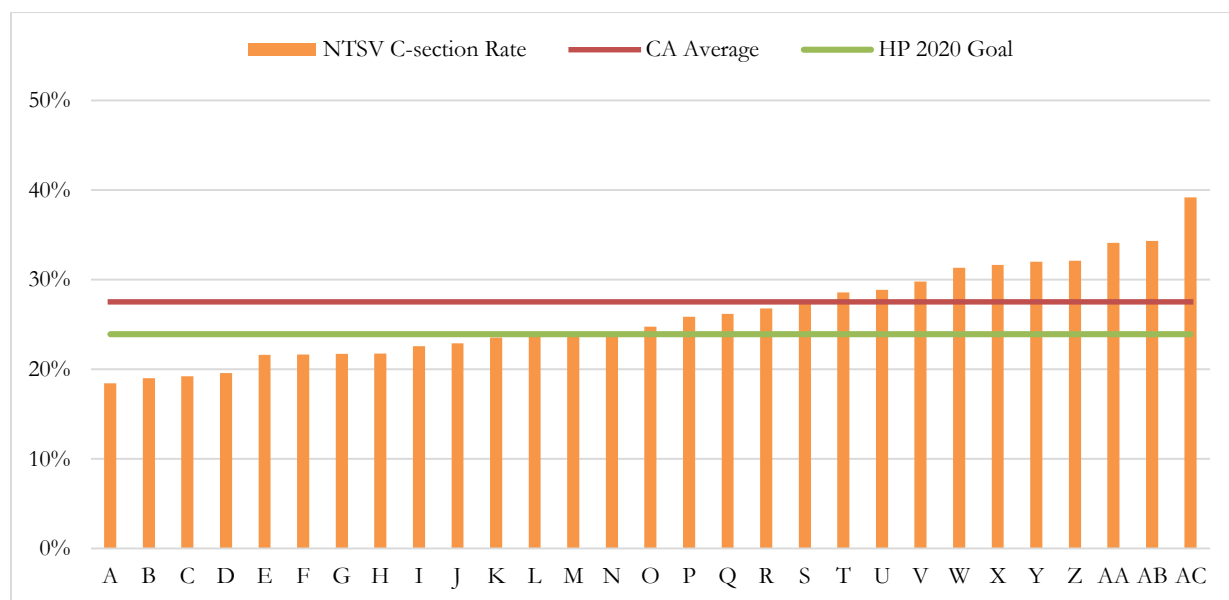


Exhibit 12B: Inland Counties C-section NTSV Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Palo Verde Hospital	18.4%	149	Not submitting
B	Kaiser Permanente - Moreno Valley Medical Center	19.0%	1058	In Process
C	Northern Inyo Hospital	19.2%	233	Not submitting
D	Arrowhead Regional Medical Center	19.6%	2482	Not submitting
E	Southwest Healthcare System-Murrieta	21.6%	3163	Not submitting
F	Riverside County Regional Medical Center	21.6%	2306	Submitting Data
G	Desert Regional Medical Center	21.7%	3242	Not submitting
H	Redlands Community Hospital	21.8%	2535	Not submitting
I	St. Mary Regional Medical Center	22.6%	2314	Submitting Data
J	Kaiser Permanente - Fontana	22.9%	5396	In Process
K	Kaiser Permanente - Riverside Medical Center	23.5%	2933	In Process
L	Loma Linda University Medical Center-Murrieta	23.7%	1041	In Process
M	Loma Linda University Medical Center	23.7%	2972	Submitting Data
N	Barstow Community Hospital	24.1%	354	Not submitting
O	Kaiser Ontario Medical Center Campus	24.7%	1910	
P	Desert Valley Hospital	25.9%	808	In Process
Q	Corona Regional Medical Center-Main	26.2%	1221	Not submitting
R	St. Bernardine Medical Center	26.8%	2063	In Process
S	Riverside Community Hospital	27.4%	3932	Not submitting
T	Mammoth Hospital	28.6%	108	Not submitting
U	John F Kennedy Memorial Hospital	28.8%	2271	Not submitting
V	Parkview Community Hospital Medical Center	29.8%	1858	Not submitting
W	San Antonio Community Hospital	31.3%	2166	Not submitting
X	San Geronio Memorial Hospital	31.6%	373	Submitting Data

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
Y	Victor Valley Community Hospital	32.0%	1270	Not submitting
Z	Montclair Hospital Medical Center	32.1%	774	Not submitting
AA	Hemet Valley Medical Center	34.1%	1311	Submitting Data
AB	Community Hospital Of San Bernardino	34.3%	2082	In Process
AC	Hi-Desert Medical Center	39.2%	474	Submitting Data

Region 13: Orange C-section NTSV Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	28.0%
Number of Hospitals	17
Number/Percent of Hospitals Above California NTSV Average	10/59%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	3/18%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	15.9
Total Live Births	39,260

Exhibit 13A: Graph of Orange C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 13B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

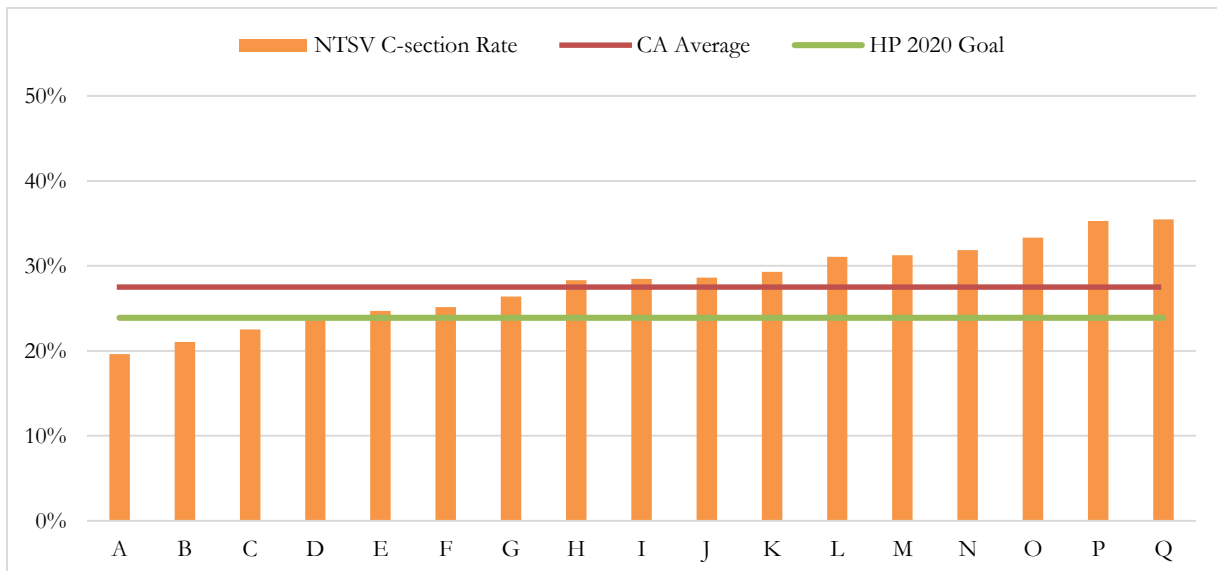


Exhibit 13B: Orange NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Los Alamitos Medical Center	19.6%	1398	Not submitting
B	La Palma Intercommunity Hospital	21.1%	403	Not submitting
C	University Of California Irvine Medical Center	22.5%	1437	Submitting Data
D	Kaiser Permanente- Orange County Anaheim Medical Center	24.0%	3197	In Process
E	St. Jude Medical Center	24.7%	2063	Submitting Data
F	Anaheim Regional Medical Center	25.1%	1690	Submitting Data
G	Western Medical Center Hospital - Anaheim	26.4%	1235	Not submitting
H	Kaiser Permanente - Orange County Irvine Medical Center	28.3%	2395	In Process
I	Saddleback Memorial Medical Center	28.5%	2708	Submitting Data
J	Fountain Valley Regional Hospital And Medical Center - Euclid	28.6%	2895	In Process
K	Western Medical Center - Santa Ana	29.3%	2093	Not submitting
L	Mission Hospital Regional Medical Center	31.1%	2789	Submitting Data
M	Hoag Memorial Hospital Presbyterian	31.3%	5923	Submitting Data
N	St. Joseph Hospital - Orange	31.9%	4751	Submitting Data
O	Garden Grove Hospital And Medical Center	33.3%	1698	Not submitting
P	Coastal Communities Hospital	35.3%	976	Not submitting
Q	Orange Coast Memorial Medical Center	35.5%	1609	Submitting Data

Region 14: San Diego/Imperial NTSV C-section Rates by Hospital, 2013

Regional Overview	
Mean NTSV C-section Rate	29%
Number of Hospitals	16
Number/Percent of Hospitals Above California NTSV Average	8/50%
Number/Percent of Hospitals Below Healthy People 2020 Guidelines	4/25%
Difference Between Lowest and Highest Performing Hospitals (Percentage Point Range)	19.7
Total Live Births	43,570

- One of every five birth occurs at Sharp Mary Birch Hospital for Women and Newborns which also reports the highest number of annual live births in the state (9,127 births). Unfortunately, the hospital also reports a low-risk C-section rate of 34.8%.

Exhibit 14A: Graph of San Diego/Imperial NTSV C-section Rates by Hospital, 2013

To identify the specific hospitals included in the graph, refer to Exhibit 14B which lists all the hospitals in the region by ascending C-section rates. The green line represents the Healthy People 2020 benchmark for NTSV C-sections, 23.9%. The red line represents the average NTSV C-section rate in all California hospitals, 27.4%.

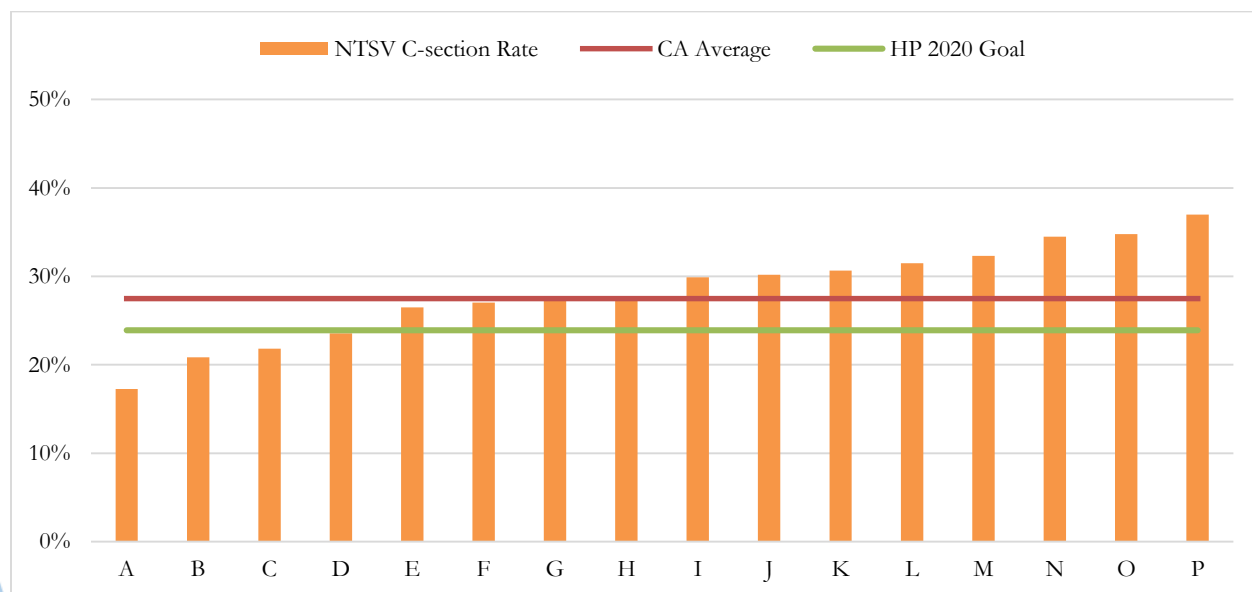


Exhibit 14B: San Diego/Imperial NTSV C-section Rates and Total Live Births by Hospital, 2013

Label	Hospital	NTSV C-section Rate	Total Live Births	MDC Submission Status
A	Fallbrook Hospital District	17.3%	385	Not submitting
B	Scripps Mercy Hospital	20.9%	1894	Submitting Data
C	University Of Calif-San Diego Medical Center	21.8%	2433	Submitting Data
D	Scripps Mercy Hospital - Chula Vista	23.5%	1781	Submitting Data
E	Tri-City Medical Center	26.5%	2556	Submitting Data
F	Scripps Memorial Hospital - Encinitas	27.0%	1765	Submitting Data
G	Pioneers Memorial Healthcare District	27.4%	1770	Submitting Data
H	Pomerado Hospital	27.5%	1247	Submitting Data
I	Palomar Health Downtown Campus	29.9%	3369	Submitting Data
J	Kaiser Permanente - San Diego Medical Center	30.2%	4518	In Process
K	Paradise Valley Hospital	30.7%	1077	Submitting Data
L	Grossmont Hospital	31.5%	3901	Submitting Data
M	Sharp Chula Vista Medical Center	32.3%	2701	Submitting Data
N	Scripps Memorial Hospital - La Jolla	34.5%	3888	Submitting Data
O	Sharp Mary Birch Hospital For Women And Newborns	34.8%	9127	Submitting Data
P	El Centro Regional Medical Center	37.0%	1158	Not submitting

F. Appendix A: How to Read and Interpret Data

The guide below helps Members drill down into the hospital data provided in Section E.

Regional Overview

The box at the top of each region’s page highlights relevant data including:

- **Number/percentage of hospitals with C-section rates higher than the California average:** Identifies the number of lower performing hospitals with NTSV C-section rates higher than the California average.
- **Number/percent of hospitals with NTSV C-section rates better than Healthy People 2020 Guideline:** Identifies the number of high performing hospitals with NTSV C-section rates in the lowest third of all hospitals.
- **Percentage Point Range:** Specifies the number of percentage points between the hospitals with the highest and lowest C-section rates to reveal how much difference exists between hospitals. The greater the range, generally, the higher the average C-section rate for the region.

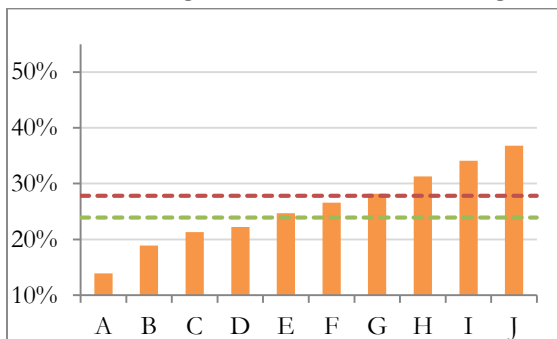
Graphs of C-section Rates by Hospital

These charts provide a visual display of key information, including:

- Each orange bar represents a C-section rate for a particular hospital in a region.
- Those bars below the green line represent hospitals performing at or better than the Healthy People 2020 NTSV C-section guidelines and are already meeting best practices.
- The bars above the red line represent hospitals with C-section rates higher than the California average and are lower performing hospitals.

Is there variation? Variation reveals unwarranted differences in care quality which can lead to discrepancies in how much each hospital spends per birth and inconsistent hospital experiences for patients.

What does a region with **high variation** look like? The orange bars are less similar heights.



What does a region with **low variation** look like? The orange bars are more similar heights.

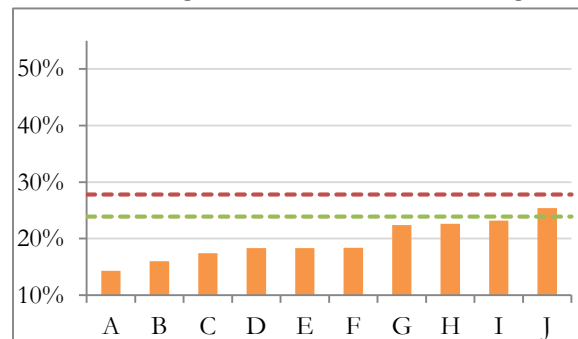


Table of C-section Rates and Total Live Births by Hospital

This table identifies the specific hospital in each graph and provides corresponding data. What should a Member pay attention to?

- **Total Live Births:** Indicates the number of live births delivered at each facility.

