HCAi
Department of Health Care Access and Information

Agenda Item 7:

Maternal Health Workforce Planning Project Update

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Mathematica®
Progress Together

Maternal Health Workforce Planning Project

Supply and Demand Modeling for California's Maternal Health Workforce

California Health Workforce Education and Training Council

July 22, 2026

Why model California's maternal health workforce?

To understand the current maternal health workforce in California	• Who provides maternal health care services? • Where are they located in the state?
To understand the current maternal health population in California	• Who needs maternal health care services? • How does this differ by region?
To quantify current maternal health workforce challenges in California	• Where is the current workforce unable to meet demand? • Where are maternal health care deserts in the state? • Does the workforce reflect the cultural, linguistics, and racial makeup of the maternal health population?
To proactively identify future maternal health workforce shortages	• What areas are at risk of becoming a maternal health care desert? • What workforce investments could mitigate projected shortages?

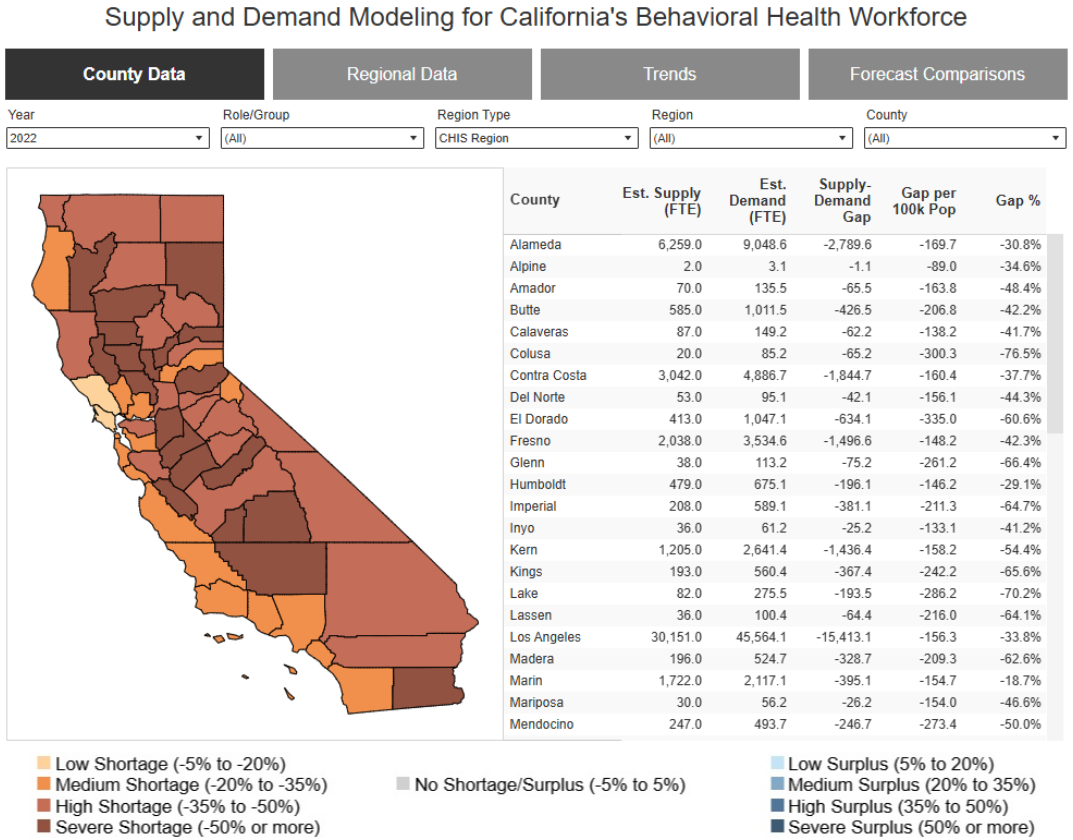
California health workforce modeling

HCAI's Workforce Models enable partners to understand and address the gap in health workforce services to better serve Californians.

The models seek to quantify current and future shortages and drive targeted decision making through dashboards.

- These dashboards show the current workforce supply, projected demand, and potential future gaps in the state.

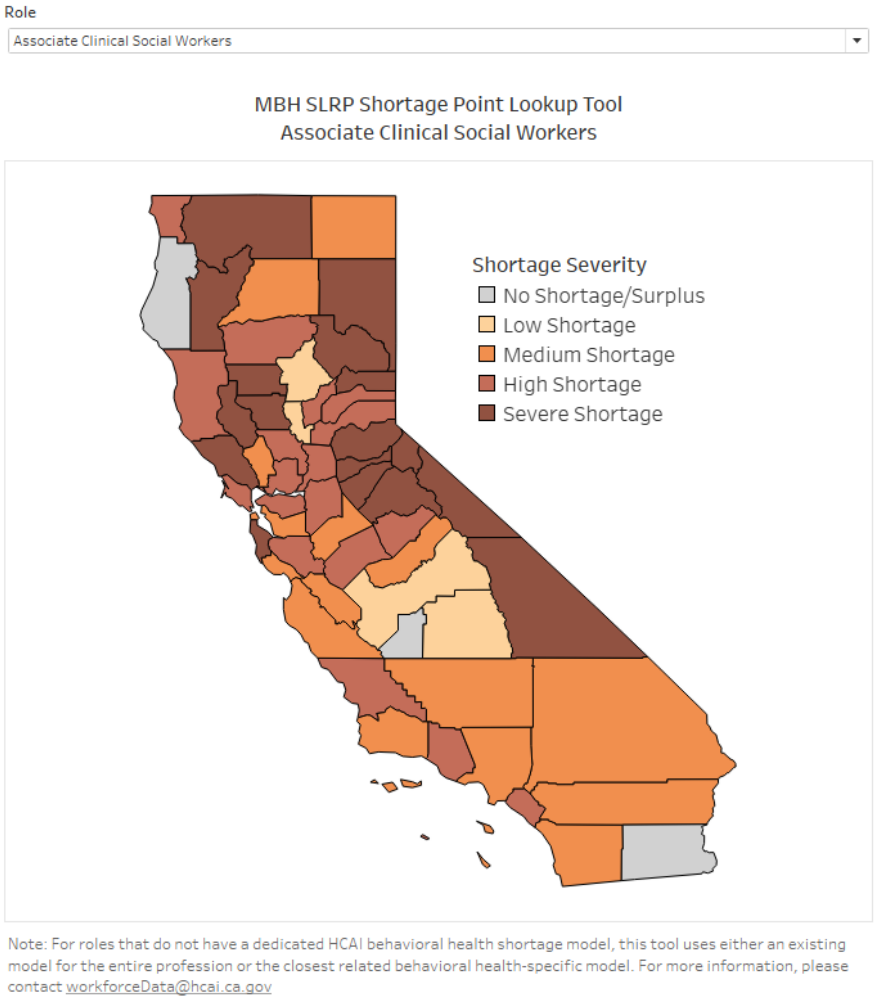
Workforce models inform HCAI's decisions on funding allocations through the development of criteria and prioritization.



County	Est. Supply (FTE)	Est. Demand (FTE)	Supply-Demand Gap	Gap per 100k Pop	Gap %
Alameda	6,259.0	9,048.6	-2,789.6	-169.7	-30.8%
Alpine	2.0	3.1	-1.1	-89.0	-34.6%
Amador	70.0	135.5	-65.5	-163.8	-48.4%
Butte	585.0	1,011.5	-426.5	-206.8	-42.2%
Calaveras	87.0	149.2	-62.2	-138.2	-41.7%
Colusa	20.0	85.2	-65.2	-300.3	-76.5%
Contra Costa	3,042.0	4,886.7	-1,844.7	-160.4	-37.7%
Del Norte	53.0	95.1	-42.1	-156.1	-44.3%
El Dorado	413.0	1,047.1	-634.1	-335.0	-60.6%
Fresno	2,038.0	3,534.6	-1,496.6	-148.2	-42.3%
Glenn	38.0	113.2	-75.2	-261.2	-66.4%
Humboldt	479.0	675.1	-196.1	-146.2	-29.1%
Imperial	208.0	589.1	-381.1	-211.3	-64.7%
Inyo	36.0	61.2	-25.2	-133.1	-41.2%
Kern	1,205.0	2,641.4	-1,436.4	-158.2	-54.4%
Kings	193.0	560.4	-367.4	-242.2	-65.6%
Lake	82.0	275.5	-193.5	-286.2	-70.2%
Lassen	36.0	100.4	-64.4	-216.0	-64.1%
Los Angeles	30,151.0	45,564.1	-15,413.1	-156.3	-33.8%
Madera	196.0	524.7	-328.7	-209.3	-62.6%
Marin	1,722.0	2,117.1	-395.1	-154.7	-18.7%
Mariposa	30.0	56.2	-26.2	-154.0	-46.6%
Mendocino	247.0	493.7	-246.7	-273.4	-50.0%

[Supply and Demand Modeling for California's Behavioral Health Workforce—HCAI]

Example Use Case – MBH SLRP Scoring



MBH SLRP Shortage Designation Lookup Tool —HCAI

HCAI has adapted program scoring methodologies to use more data-driven approaches using the results from the models:

- The Medi-Cal Behavioral Health Student Loan Repayment Program creates custom scoring for each applicant based on the area they will serve and their role type.
- Allows for over 21 different roles to be scored individually by county.

Supply and demand modeling for California's maternal health workforce: Project goals

Develop assumptions to use in creating a Maternal Health Supply-and-Demand Model to understand the current supply of and future needs for maternal health providers under current scope of practice guidelines and optimal care recommendations.[1]

Use outputs to inform strategies to enhance the recruitment, placement, and retention of the maternal health workforce.

This model is *not* intended to make recommendations on changes to scope of practice guidelines or optimal maternal care requirements and is only intended to reflect the supply and demand of California.

[1] This includes licensed midwives, certified nurse-midwives, family nurse practitioners, physicians, doulas, and support roles essential for delivering high-quality and equitable pregnancy care to all Californians.

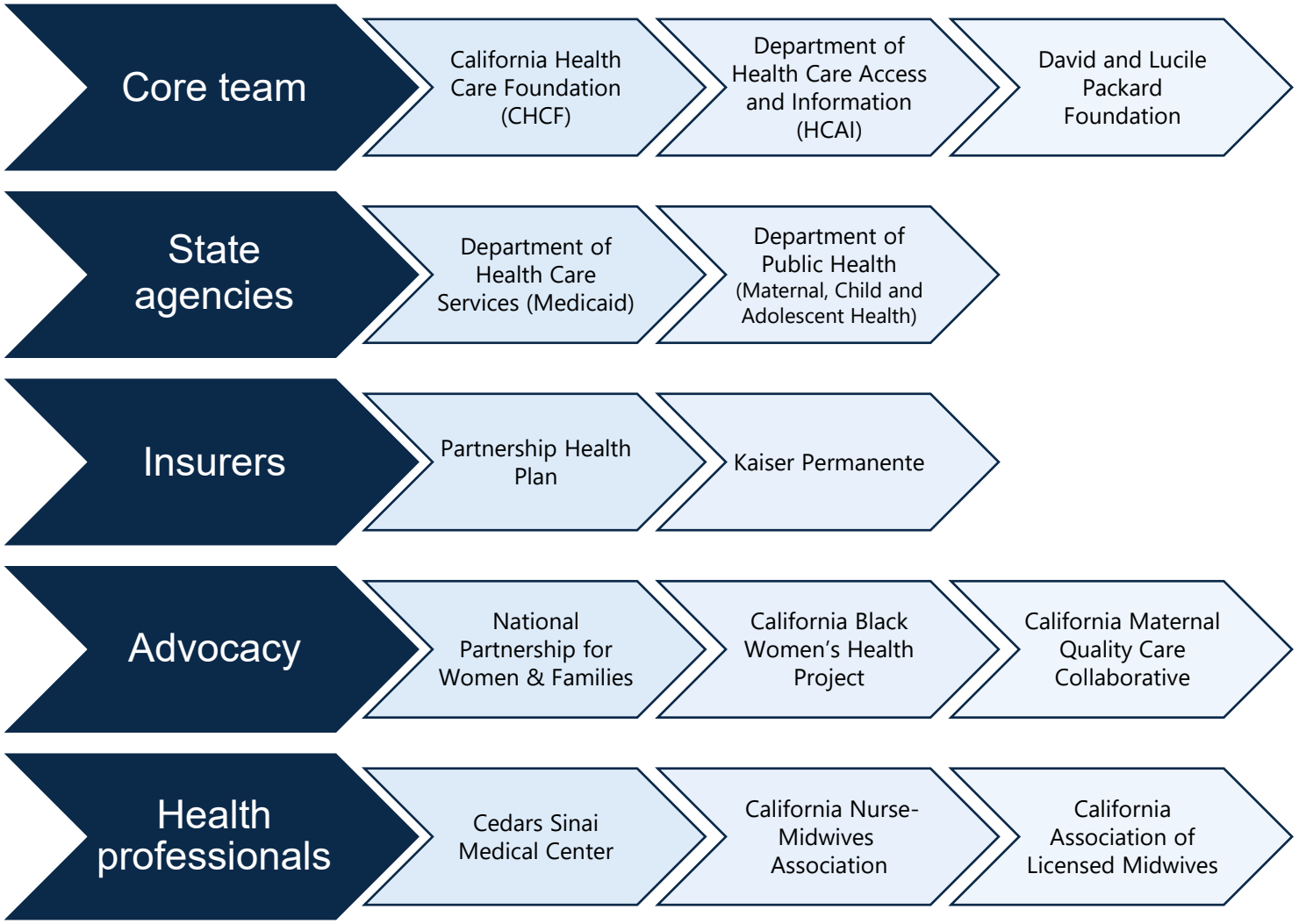
Activity timeline

Strategic Advisory Group Membership

Strategic Advisory Group (SAG)

SAG members represent sponsors, key partners, payers and purchasers, and subject matter experts

Purpose is to gather input from a diverse range of perspectives throughout project activities



Literature Review

Literature review

Purpose:

To understand care model opportunities and needs to safely, efficiently, and equitably manage the full continuum of birthing people in California across geographic areas (urban and rural), care settings (hospitals and birth centers), and maternal health risk status

Focus areas:

Current state

Provider type	Staffing standard	National	California	Notes
OB-GYNs	U.S. Department of Health and Human Services (HHS) recommends 1 OB-GYN or CNM per 1,500 females ages 15 to 44.	49,170 OB-GYNs 38 OB-GYNs per 100,000 women	5,600-5,900 OB-GYNs 13.2 OB-GYNs per 1,000 live births	Silvestre, J., & Lazenby, G. B. (2026) NPI data (Taxonomy code: 207V00000X) CHCF 2026 Maternity Care Almanac
Registered nurses (perinatal)	2 nurses in the hospital who can care for obstetric emergencies that may require cesarean birth (1 nurse circulator and 1 baby nurse)	200,000 to 350,000	No official count	Staffing standards from the Association of Women's Health, Obstetric, and Neonatal Nurses Bradford et al. (2025) National Center for Workforce Analysis (2025)
Midwives	The World Health Organization (WHO) recommends 6 midwives per 1,000 live births.	14,198 (99% are CNMs) 4 midwives per 1,000 births	1,254 CNMs 574 LMs 3 midwives per 1,000 live births	AMCB 2023 Demographic Report NACPM Licensed Midwifery Access and Equity Report: State of California
Doulas	None	12,549 individual doulas are registered providers.	1,791 individual doulas are registered providers. In the Listening to Mothers survey, 1 in 10 CA mothers received labor doula support	NPI Data (Taxonomy code 374J00000X) No comprehensive national or state data source on the doula workforce. MediCal lists >1800 doulas as enrolled providers.
MFM providers	None	1,769	212	Society for Maternal-Fetal Medicine's board-certified physician membership roster from 2021
Family medicine (providing maternal health care)	None	5,000 to 10,000	No official count	American Board of Family Physicians Certification exam questionnaire

Listening to Mothers in California

Expressed interest in providers and care settings:

- 54% want or would consider a midwife as their maternal health care provider for a future pregnancy (9% actual use).
  - Black women had the greatest gap between a desire for a midwife (66%) and actual use (6%).
- 57% expressed an interest in having doula support in the future (9% actual use)
- 40% expressed interest in a future birth center birth (less than 1% actual use)

Sakala, C., Declercq, E. R., Turon, J. M., & Corry, M. P. (2018). *Listening to Mothers in California: A population-based survey of women's childbearing experiences, full survey report.* National Partnership for Women & Families.

1

The U.S. faces a growing mismatch between maternal health care workforce supply and demand, especially for OB-GYNs.

This gap is expected to widen over time.

- **U.S., 2025–2037:** OB-GYN demand is projected to increase by ~53,000 (3%). Supply is projected to decrease by 46,000 (10%).
- **California, 2025–2037**: OB-GYN demand is projected to increase by 90 (1%). Supply is predicted to decrease by 520 (9%).
- **California is expected to have a shortage of ~1,160 full-time equivalent OB-GYNs by 2030.**

Silvestre, J., & Lazenby, G. B. (2026). Geographic variation in supply, demand, and adequacy of the obstetrics and gynecology physician workforce: Forecasts and shortage risks in the United States. *Archives of Gynecology and Obstetrics, 313*(1), 95. https://doi.org/10.1007/s00404-026-08322-5

Joynt, J. (2025, February 7). *Midwives speak: Integration challenges in California's health system.* California Health Care Foundation. https://www.chcf.org/resource/midwives-speak-integration-challenges-californias-health-system/

2 The midwifery workforce could expand significantly.

- **Midwives in California attend 9.5% of births.**
  - Midwives in the U.S. attend 10% to 12% of births.
  - Midwives in other high-resource countries attend 50% to 75% of births.
- **The U.S. has enough low-risk births to increase the midwifery workforce up to five times its current size.**
  - In 2022, 65% of births had no recorded maternal risk factors on the birth certificate. Midwives attended only 13% of these births.
  - The American College of Nurse-Midwives Workforce Survey showed that most midwives are not working in their full scope.

Vedam, S., Stoll, K., MacDorman, M., Declercq, E., Cramer, R., Cheyney, M., Fisher, T., Butt, E., Yang, Y. T., Powell Kennedy, H., Coxon, K., Smith, D. C., & Zeitlin, J. (2018). Mapping integration of midwives across the United States: Impact on access, equity, and outcomes. *PLoS ONE, 13*(2), e0192523. https://doi.org/10.1371/journal.pone.0192523
Vanderlaan, J. (2023). *Access to midwifery care national chartbook*. https://midwife.org/wp-content/uploads/2025/02/Access-to-Midwifery-Care-National_Chartbook_20241024.pdf

3

Family medicine physicians play a key role in maternal health care, especially in meeting the needs of women with limited maternal health care access.

- **Family physicians in rural and safety-net settings and in areas with fewer CNMs or OB-GYNs are more likely to provide maternal health care.**
- **Between 5,000 and 10,000 family physicians provide maternal health care nationally.**
  - Family physicians help fill maternal health workforce gaps, as they are trained in full-spectrum women's health, offer whole-person care across the birthing continuum, and are more likely to practice in underserved communities and communities of color.

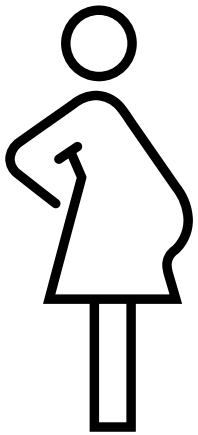
Topmiller, M., Walter, G., Jetty, A., Pristell, C., Rankin, J. L., Carrozza, M. A., & Huffstetler, A. N. (2025). The geographic distribution of family physicians providing maternity care and opportunities for expanding access to care in rural areas. *Annals of Family Medicine, 23*(4), 302–307. https://doi.org/10.1370/afm.240073

Walter, G., Jetty, A., Topmiller, M., & Huffstetler, A. (2024). Family physicians provide maternity care in and around the maternity care shortage areas, particularly rural. *The Journal of Rural Health, 40*(4), 664–670. https://doi.org/10.1111/jrh.12848

4

The U.S. does not have national adequacy standards for maternal health clinicians; staffing varies widely across regions and care settings.

- **WHO recommends six midwives per 1,000 live births.**
- **HHS recommends one OB-GYN or CNM per 1,500 females ages 15 to 44.**
- **California Managed Care Network Adequacy Standards:**
  - OB-GYNs are considered both primary and specialty care, depending on the beneficiary's service needs.



Primary care standards		Specialty care standards	
Distance	Access	Distance	Access
10 miles from residence	Less than 10 business days from request to appointment	Rural counties: 60 miles from residence Small counties: 45 miles from residence Medium counties: 30 miles from residence	Less than 15 business days from request to appointment

Vanderlaan, J. (2023). *Access to midwifery care national chartbook*. https://midwife.org/wp-content/uploads/2025/02/Access-to-Midwifery-Care-National_Chartbook_20241024.pdf

State of California, Health and Human Services Agency, Department of Health Care Services. (2018, March 26). *Medicaid managed care final rule network adequacy standards*. https://www.dhcs.ca.gov/formsandpubs/Documents/FinalRuleNAStandards3-26-18.pdf

5 Births in California are declining, which contributes to labor and delivery (L&D) unit closures.

- **More than 50 L&D units closed in California over the past decade.**
  - Three million Californians live in areas with either no L&D units or units facing closure, with Black mothers at highest risk.
  - From 2019 to 2024, 1.2 million women experienced an increase in the distance to the nearest hospital with maternal health care services.
- **Obstetric units are closing due to multiple factors.**
  - **Low birth volume**
  - **Financial instability**
- **Twenty-five birth centers closed in California between 2020 and 2025.**
  - Of the 37 that remain, only four are licensed.

Bartick, M., Payton, C., & Jegier, B. (2025). Maternity care deserts: An urgent public health problem in need of financial solutions. *Maternal and Child Health Journal, 29*(11), 1489–1496. https://doi.org/10.1007/s10995-025-04168-6

California Hospital Association. (2025, February). *Maternity care in California: An environmental scan.* https://calhospital.org/wp-content/uploads/2025/02/CHA_Environmental-Scan_Maternity-Care_Final.pdf

California Hospital Association. (2025, March). *Protecting maternity services in California requires tailored, community-centric approaches that put patients first.* https://calhospital.org/wp-content/uploads/2025/03/Maternal-Care-Issue-Brief-2025-Final.pdf

Harrison, J., Parimi, M., Williams, C., Taiwo, T., & Thompson-Lastad, A. (2025, May). *Opening doors to birth centers: Community perspectives on expanding access to perinatal care in California.* Western Center on Law & Poverty. https://wclp.org/opening-doors-to-birth-centers-community-perspectives-on-expanding-access-to-perinatal-care-in-california/

6

Geographic, racial, and economic inequities are barriers to maternal health care access.

- **Rural counties have significantly fewer OB-GYNs, midwives, and birthing facilities.**
  - Less than half of all rural counties in the country have a practicing obstetrician. Shortages particularly affect American Indian/Alaska Native women in rural areas.
- **Black birthing people face the largest gaps in access to midwives, doulas, and the birth center model of care.**
  - Workforce diversity remains an issue. Of the ~14,000 AMCB-certified midwives in 2024 in the United States, 83% were White.
- **Travel time to maternal health care varies widely; some California residents travel over 100 miles to reach a birthing hospital.**
- **The poorest regions in California have the fewest providers.**
  - To meet the recommended HHS ratio, California counties with median household incomes <$96,000 need a 168% increase in OB-GYNs in the next five years. This gap is wider for lower-income counties.

Niles, M., & Zephyrin, L. (2023, May 5). *How expanding the role of midwives in U.S. health care could help address the maternal health crisis.* The Commonwealth Fund. https://www.commonwealthfund.org/publications/issue-briefs/2023/may/expanding-role-midwives-address-maternal-health-crisis

Fontenot, J., Lucas, R., Stoneburner, A., Brigance, C., Hubbard, K., Jones, E., & Mishkin, K. (2023). *Where you live matters: Maternity care deserts and the crisis of access and equity in California.* March of Dimes. https://www.marchofdimes.org/peristats/reports/california/maternity-care-deserts

Jolles, D. R., Niemczyk, N., Hoehn Velasco, L., Wallace, J., Wright, J., Stapleton, S., Flynn, C., Pelletier-Butler, P., Versace, A., Marcelle, E., Thornton, P., & Bauer, K. (2023). The birth center model of care: Staffing, business characteristics, and core clinical outcomes. *Birth, 50*(4), 1045–1056. https://doi.org/10.1111/birt.12745

California Hospital Association. (2025, March). *Protecting maternity services in California requires tailored, community-centric approaches that put patients first.* https://calhospital.org/wp-content/uploads/2025/03/Maternal-Care-Issue-Brief-2025-Final.pdf

California Hospital Association. (2025, February). *Maternity care in California: An environmental scan.* https://calhospital.org/wp-content/uploads/2025/02/CHA_Environmental-Scan_Maternity-Care_Final.pdf

Key Informant Interviews

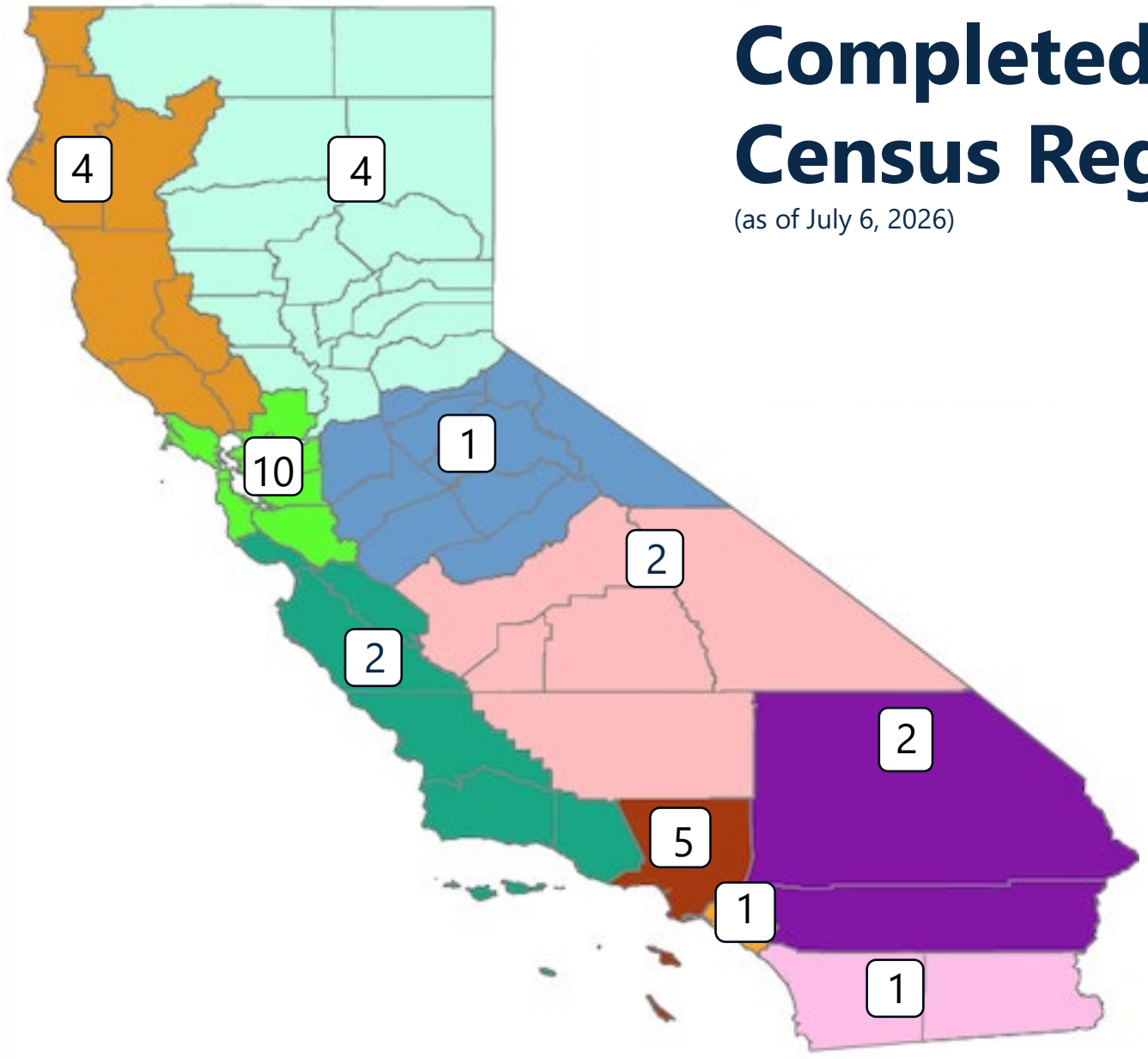
KIIs and focus groups

Participants

- Physicians, including obstetricians, family medicine, and maternal fetal medicine (MFM) providers
- Midwives and nurse practitioners, including certified nurse-midwives (CNMs), licensed midwives (LMs), family nurse practitioners, and women's health nurse practitioners
- Support professionals, including doulas, social workers, mental health providers, lactation consultants, and community health workers (CHWs)
- Large insurers and state health agencies
- Professional associations and educational programs
- Consumer and advocacy groups

Completed KIIs by California Census Region

(as of July 6, 2026)



Region

- Superior California
- North Coast
- San Francisco Bay Area
- Northern San Joaquin Valley
- Central Coast
- Southern San Joaquin Valley
- Inland Empire
- Los Angeles County
- Orange County
- San Diego - Imperial

Additional KIIs:

5 statewide
1 Southern California
8 national

Initial findings (1)

- **Key informants recommended the model take an expansive approach for inclusion in a supply-and-demand model for maternal health**
  - Primarily CNMs, LMs, OB-GYNs, family physicians, perinatal nurses, doulas, CHWs, and lactation consultants
    - *"I honestly think that everyone should be involved, and what I mean by everyone, **not only physicians in every specialty, but I also mean nurse practitioners, midwives, community health workers**, and why do I say that? Because health does not just happen within four walls, and I say it all the time. Eighty percent of health happens outside of the health care setting."* —KII participant, OB/GYN Public Health

    - *"Obviously, midwives. I think we need all hands on deck, so I think **all of our providers** who are currently licensed to take care of people in the **perinatal period, including licensed or certified professional midwives, family medicine, OB-GYN physicians, and we also really need a strong doula workforce**. We need a health navigation workforce."* —CNM, Bay Area

Initial findings (2)

- **Supply of and demand for maternal health clinicians vary widely across regions and populations.**
  - Family physicians or nurses might better fit the needs of a rural community with a low birth volume.
    - *"I live in a town of a thousand people. We have a health center here. They see 2,500 patients a year, which is what I consider a baby health center.* ***They may have like five or six pregnant patients a year that they care for. And so you can't have just completely dedicated like CNMs or OB-GYNs because you have to have flexibility in the type of care and the type of patients that you're providing care for****. Which is an argument for family medicine because they can take care of the pregnant patient, certainly in the outpatient setting—but then also, they can see other types of patients."* —KII participant, California Primary Care Association

    - *"I think we might have too many hospitals. I think* ***we have probably too much birth capacity here [in San Francisco]****, and then we have a couple of birth centers who struggle because they're not able to see all the people who would want to see them, and so it's hard for them to stay afloat even though they're providing care that people want. And then* ***there are places where there's just no hospital within 60 miles providing any sort of childbirth****."*
      —Researcher, San Francisco

Initial findings (3)

- **Staffing mandates have varying levels of applicability, depending on the region.**
  - *"The state has a **regulatory requirement which exceeds rationality**, and it requires even if there's not a single person in labor, you have to have two OB-trained nurses 24/7 in the hospital, so you have a low-volume unit. They're from the perspective of somebody sitting comfortably in their office in Sacramento **rather than understanding the reality of a rural area**. So the places they closed couldn't keep that level of nursing staff."* —Health System Executive
- **One licensed provider is not equivalent to 1.0 FTE.**
  - *"**Generationally, a lot of the new grads want to be, you know, 0.8**. Then they have a baby, then they'll go down to 0.6, and then the kid will go to school, then they come back up again...OB-GYN, midwifery, nurse practitioners, lactation consultants—these are very female-heavy fields. And because women tend to be the birthing parent or the primary parent, we see a lot of changes in terms of people's FTE...a lot of people work less than 1 FTE."* – OB-GYN, Bay Area
  - *"And **I wouldn't count one provider as providing 1.0 FTE period. I would say probably 0.8, 0.75** would be, I mean—if you wanted to get more complex, you could look at like people of childbearing age...let's say everybody from 30 to 40 is working 0.5 FTE."* —Researcher

Initial findings (4)

- **Grouping provider or personnel types in the model is acceptable, but opinions differ on which types should be grouped together.**
  - *"**We'll group together the family practice docs with the midwives because they both require backup from an obstetrician**, even though what they need backup for is somewhat variable."* —OB-GYN, Bay Area
  - *"I think family practice and OB…. There are things that subspecialized OBs do that family practice doctors can't do. But I do think **who can versus can't conduct surgery during childbirth seems like a relevant kind of division**."* —Researcher

KII findings (5)

- **Low reimbursement rates limit midwives' ability to provide care and are contributing to birth center closures.**
  - *"**People who are not accessing midwifery care who want to are typically people with Medi-Cal**. We've definitely had more than one family, multiple families, who have come wanting to work with us and just really couldn't afford it, and we couldn't afford to take Medi-Cal."* —LM, Bay Area
  - *"...we had always wanted to take Medi-Cal, and that proved to be impossible for us. **But what we were able to do was to start accepting commercial insurance, and that allowed us to really expand who we could help.... We saw a lot more diversity.** We saw some younger folks, you know? I would say younger people in their mid- to early 20s, and it also allowed us to take care of more Latino women. But it also was ultimately our demise.... Let's say it cost $10,000 for a full course of care and, comparatively, we might have received $6,000."* —Birth center LM, Central Coast

KII findings (6)

- **Maternal health clinicians highlighted burnout, low pay, and an unsustainable model of care as key workforce challenges.**
  - Many cited a lack of support for midwifery preceptors and lack of obstetric training for family medicine residents.
    - *"We could admit up to 25, maybe even more students. We have the capacity to. However, we **don't have adequate clinical placements** for them. So we're limited to 8 to 12 sometimes. I experimented and admitted 15 students last semester, and it was hell, if I could say that, getting them placed in clinical sites. So either we figure out a way to get more preceptors, or I'm gonna have to drop back down to like 10 or 12."* —CNM faculty, Southern California
    - *"The ACGME [Accreditation Council for Graduate Medical Education] requirements kind of have shifted; there's **less focus on that [obstetrics] as part of the [family medicine] residency experience** unless you really seek it out.... So it just means there are fewer people that are sufficiently trained to go out and provide this care."* —KII, California Primary Care Association

KII findings (7)

- **Maternal health clinicians highlighted burnout, low pay, and an unsustainable model of care as key workforce challenges.**
  - Many lamented the workforce pipeline, citing lack of support for midwifery preceptors and lack of obstetric training for family medicine residents.
    - *"Physician burnout has gone down from 48% to 41%, and I thought, oh no, now they're gonna stop working on it.* ***That's because all the really burned-out physicians have left****."* —Researcher
    - *"****I mean you can't develop the workforce if you can't then pay the workforce you've developed.*** *Right? Like, it's great to have more midwives, but why would anybody wanna go do that? Have $200,000 in debt at the end of the day and make $100,000? Like, and I know $100,000 is not nothing, but it's not a whole lot when you've got $200,000 in debt and you live in a place where you're paying $5,000 a month in rent, you know?"* —Birth center nurse-midwife, North Coast
    - *"****I think one of the things that we see across the field as it relates to attrition is just caregiver burnout, and that's not unique to mental health****—I think that is across the board. Especially when we're seeing the demand as high as we're seeing it."* —Perinatal Social Worker, Statewide

Model Considerations and Next Steps

Next steps

- **Based on findings from the literature review, interviews and Strategic Advisory Group discussions, develop assumptions that:**
  - Consider the maternal health care setting and continuum (prenatal, intrapartum, postpartum)
  - Distinguish between rural and urban settings
  - Demonstrate current provider supply and patient demand
    - Factors current reimbursement, location, distribution, and available data sources
  - Model an optimized care delivery 5-10 years into the future
    - Quantifies impact of changes based on potential policy, workforce pipeline, payer coverage, and other landscape shifts

Project team

California Health Care Foundation (CHCF)
- Kathryn Phillips, MPH
- Amelia Cobb, MPH

HCAI Partners
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- Lisa DeMaria, DrPH, MA
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- Diane Rittenhouse, MD, MPH
- Juee Modi

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- Deborah Kong
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