Certified Nurse-Midwife Integration into a Maternity Care Practice

Financial Considerations for Developing a Business Plan

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Introduction and Background

The potential benefits of using certified nurse-midwives and integrating them into a maternity practice has been documented. For example, a 2011 systematic review found substantial evidence from well-designed studies demonstrating the differences in Cesarean section rates between Certified Nurse-Midwives (CNMs) and other providers.[1]

A recent study conducted by researchers at the University of California, San Francisco, Washington State University, and the Providence health system, found significant reduction in the use of Cesarean section, vacuum-assisted delivery, epidural, anesthesia, labor induction, and reduced maternal length of stay associated with CNM-led care compared with physician-led care for low-risk women.[2] Making the decision to integrate CNMs into maternity practices requires organizational leadership and physician understanding and agreement on the value of CNMs to practices. However, in California, consensus on this topic has been elusive. One reason for disagreement may be that CNM integration occurs in a variety of ways, with varying degrees of financial and organizational success. Additionally, it is not clear whether any financial benefits that may result from CNM integration would accrue to the maternity practice.

Milliman, Inc., (Milliman) was engaged by the Pacific Business Group on Health (PBGH) as part of its Transforming Maternity Care (TCM) program, to develop this white paper to outline the strategic steps needed to develop a business plan for CNM integration in California, and the financial considerations that are crucial for sustainability. This white paper discusses the value of CNM integration to maternity practices in the state of California and key considerations for a financial officer or business lead assessing the implications of CNM integration. While there are lessons that may be broadly applicable to other states, this report is focused on implications for practices in California.

Note, we acknowledge there are other barriers related to CNM integration, such as culture, organizational structure, and willingness of leadership. This white paper does not delve into these important issues but instead refers the reader to the Pacific Business Group on Health's Certified Nurse-Midwife Integration Guide.[3]

Audiences

- CFO of a OB/GYN medical group
- Financial Lead of the Maternity Business Unit at an acute care hospital
- CFO of a health plan considering encouraging increased adoption of CNM use
- Business Lead for an Commercial Accountable Care Organization
- CFO of an FQHC which has maternity care within their scope of services.

1. Newhouse, R., Stanik-Hutt, J., White, K., et al. (2011). Advanced practice nurse outcomes 1990-2008: A systematic review. Nursing Economics, 230-250.

2. Altman, M., Murphy, S., Fitzgerald, C., et al. (2017). The cost of nurse-midwifery: Use of interventions, resources, and associated costs in the hospital setting. Women's Health Issues, 434-440.

3. For more information, see the Pacific Business Group on Health CNM Integration Guide.

Introduction and Background

CNMs in California

It is important to define and discuss the scope of practice of a CNM according to current California laws and regulations, as these vary by state. According to the Board of Registered Nursing,

A certified nurse-midwife (CNM) is a registered nurse who is a graduate of a Board-approved nurse-midwifery program and who possesses evidence of certification issued by the California Board of Registered Nursing. A certified nurse-midwife may be known as an Advanced Practice Registered Nurse in accordance with Business and Professions Code Section 2725.5. Nurse-midwifery practice as conducted by CNMs is the independent, comprehensive management of women's health care in a variety of settings focusing particularly on pregnancy, childbirth, the postpartum period. It also includes care of the newborn, and the family planning and gynecological needs of women throughout the life cycle.[4]

Under California scope of practice laws, CNMs may attend normal childbirth and provide prenatal, intrapartum, postpartum, and family planning services to mothers and newborns under the supervision of a licensed physician and surgeon with training in obstetrics. Under physician supervision CNMs are also allowed to provide or prescribe drugs or devices for family planning, routine care, perinatal care, and care rendered within CNM educational training; sign birth certificates; and treat sexually transmitted diseases.[5] California law requires a ratio no less than 1:4 physician supervisors to CNMs for CNMs who furnish or order drugs or devices; however, physical presence of the physician supervisor is not required to meet the supervision ratio requirements.[6] Although physicians do not have to be physically present, the law requires standardized procedures be provided in a document that includes protocols on which drugs may be furnished or ordered and under what circumstances, which must be developed and approved by the supervising physician and surgeon, the CNM, and the facility administrator.[7] Last, CNMs are allowed to perform and repair episiotomies and repair first- and second-degree perineal tears in licensed acute care hospitals and alternate birth centers so long as they follow protocols of the supervising physician and surgeon.[8]

CNMs work in a number of healthcare settings including midwife or physician-owned practices, hospitals, community health centers, university medical centers, federally qualified health centers (FQHCs), public health departments, out-of-hospital birth centers, managed care healthcare systems, home birth settings, and teaching and research settings. In 2010 there were a total of 1,045 CNMs in the state of California, however only 804 of those were employed as CNMs. Kaiser Permanente is the largest employer of CNMs in California, and in Northern California CNMs provide midwifery services at 11 Kaiser hospitals. From 2004 to 2011 the percentage of births delivered by CNMs increased, and in 2010, 11% of vaginal births in California were attended by CNMs. According to the American College of Nurse Midwives, under Medi-Cal FFS, CNMs are reimbursed at 100% the rate of physician fee-levels in California, and in 2014, 48% of CNM-attended births were reimbursed by private insurance, 45% by Medi-Cal, and 7% by self-pay or other.[9]

From 2004 to 2011 the percentage of births delivered by CNMs increased, and in 2010

11%

of vaginal births in California were attended by CNMs.

4. Board of Registered Nursing. October 2011. General Information: Nurse-Midwife Practice. Available at: http://www.rn.ca.gov/pdfs/regulations/npr-b-31.pdf.
5. Board of Registered Nursing. October 2011. CERTIFIED NURSE-MIDWIFE PRACTICE: Explanation of Standardized Procedure for CNM. Available at: http://www.rn.ca.gov/pdfs/regulations/npr-b-32.pdf.
6. California Code, Business and Professions Code - BPC § 2746.51. Available at: http://codes.findlaw.com/ca/business-and-professions-code/bpc-sect-2746-51.html
7. California Code, Business and Professions Code - BPC § 2746.51. Available at: http://codes.findlaw.com/ca/business-and-professions-code/bpc-sect-2746-51.html
8. Board of Registered Nursing. October 2011. CERTIFIED NURSE-MIDWIFE PRACTICE: Explanation of Standardized Procedure for CNM. Available at: http://www.rn.ca.gov/pdfs/regulations/npr-b-32.pdf.
9. Joynt, J. 2016. California Health Care Almanac, Maternity care in California: delivering the data. California Health Care Foundation. Oakland, CA.

Methods

In order to gain a better understanding of the design characteristics and techniques various practices and hospitals use to financially sustain their CNM programs, we collaborated with PBGH to conduct in-depth interviews of various maternity care practices and hospitals from a variety of regions in California.

Interviewees consisted of small, midsized and large practices, including practices with as few as one CNM and practices with more than 100 CNMs. We interviewed practices with various ownership structures, including medical group and physician owned, hospital owned, and foundation owned practices. We also interviewed practices with a diversity of payer mix and reimbursement structures. Milliman also conducted a review of the literature by examining key systematic reviews plus more recent, well-designed studies published in the United States. We developed this white paper based on a synthesis of this information and Milliman experience with payment methodologies applicable to maternity care.

Strategic Steps to Develop a Business Plan

Based on the information gathered through interviews, literature search, and our experience in working with healthcare systems and practices, there are four key steps to take when developing a business plan for integrating CNMs into a maternity practice in California, as illustrated by the figure below:

1 Assess the Current and Evolving Payment Landscape

- Consider current share of Medi-Cal and Commercial payer sources
- Consider current payment models and payment rates
- Consider evolving payment models and opportunities for reducing costs, improving efficiencies, and increasing revenues

2 Consider Resource Allocation

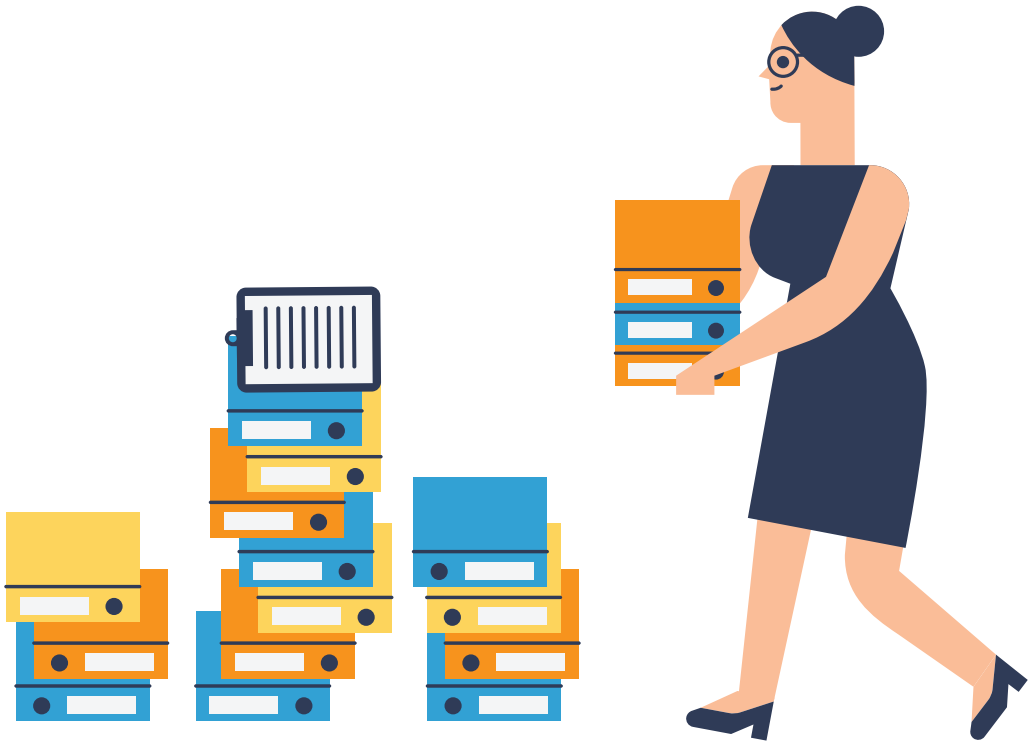
- Consider the care model and how much time will be allocated between the physician and the CNM
- Consider the supervising physician time
- Consider CNM time allocation between inpatient and outpatient care

3 Develop a Pro Forma

- Consider all expenses and projected revenues that can be allocated to the CNM
- Include other revenues, such as grants, that are not related to service delivery but can be attributed to the CNM

4 Develop a Business Plan

- Make the business case and consider other non-quantifiable benefits
- Develop a realisic business plan that takes into account potential losses in the initial time period and outline steps to generate growth / become profitable



Strategic Steps to Develop a Business Plan

Assess the Current and Evolving Payment Landscape

As a first step, it is important to consider all the payment sources, payment models, and payment rates relevant to the maternity practice and in particular for CNM services. While Medi-Cal pays for a substantial portion (45%)[10] of all births in California, payment levels are among the lowest in the country. In 2012, Medi-Cal fee-for-service payments for obstetric care as a percentage of Medicare payments was third lowest in the nation at only 54%, higher only than Rhode Island and New Jersey.[11] Through our interviews, we found maternity practices with a higher proportion of Medi-Cal as a payer source for maternity care services were at greater risk for operating at a loss. By comparison, practices with higher proportions of commercial plans as a payer source were more likely to be profitable. Non-profit practices whose mission includes providing access to care for low-income individuals, and who currently see Medi-Cal patients would likely consider continuing to do so. However, practices should consider the extent to which payer sources can be diversified to include commercial payers to ensure sustainability.

Payment models—which define payment amounts, payment units, and conditions on which payments are made—have the potential to either drive efficiency or waste in the system, but the more salient point is that they directly affect the practice's bottom line. For example, in a fee-for-service (FFS) model, practices have incentives to provide greater volume of services. However, managed care and payment models that provide a capitated amount to practices (e.g., for all professional outpatient services) can help create incentives for efficient allocation of resources.

In California, in 2014, Medi-Cal births account for approximately 45% of all births, and approximately 40% of those are reimbursed under capitation and 60% under FFS.[12] On the commercial side, employers and payers are considering value based payment options for maternity care. In 2014, PBGH, partnering with Aetna, Blue Shield of California, and Cigna and three hospitals and medical groups in the Los Angeles area launched a pilot program intending to reduce the rate of Cesarean section rates among low-risk, first births (or nulliparous term singleton vertex (NTSV)). Part of the pilot was to implement blended case rate payments that were made to hospitals regardless of whether the delivery was vaginal or Cesarean. Within the first four months, the hospitals demonstrated a large (20%) reduction of NTSV Cesarean rates which were sustained over a 12 month time period.[13]

Practices—especially those that are hospital based—should monitor payment reform activity that seeks to expand value-based payments. This could be in the form of ACOs, use of bundled or global payments, or other alternative payment models intended to increase care coordination, care management, and efficiencies. The Health Care Payment and Learning Action Network (HCPLAN)—a group of private and public stakeholders convened by the Department of Health and Human Services—has a goal of increasing the use of alternative payment models (APMs) such as value-based payment methodologies to 50% nationally by 2018, particularly for care such as maternity care.[14] This group recently recommended use of bundles to pay for maternity care that would span 10 months (or more) and include all providers involved in providing maternity care.[15]

Maternity care providers involved or interested in entering into alternative payment arrangements, such as value-based arrangements, shared risk arrangements, or pay-for-performance arrangements, should consider integrating CNMs into their practices.

10. Joynt, J. 2016. California Health Care Almanac, Maternity care in California: delivering the data. California Health Care Foundation. Oakland, CA.

11. Kinselman, C., & Bushman, J. n.d. Understanding Your Practice Environment: Making an Informed Decision About Where to Work. American College of Nurse-Midwives. Silver Spring, MD.

12. Watkins, J. (2014). 2011 Medi-Cal Birth Statistics. Sacramento, CA: California Department of Health Care Services.

13. Pacific Business Group on Health. (October, 2015) Case Study: Maternity Payment and Care Redesign Pilot (October 2015).

14. Health Care Payment Learning & Action Network. (2016). Accelerating and Aligning Clinical Episode Payment Models. The MITRE Corporation, McLean, VA.

15. Butcher, L. (January, 2017). Prepping for Maternity Care Bundles. Change Healthcare, Nashville, TN.
Health Care Payment Learning & Action Network. (June, 2017). Setting the Patient Population for Maternity APMs. The MITRE Corporation, McLean, VA.
Health Care Payment Learning & Action Network. (2016). Accelerating and Aligning Clinical Episode Payment Models. The MITRE Corporation, McLean, VA.

Strategic Steps to Develop a Business Plan

Consider Resource Allocation

Practices that have incentives to more efficiently allocate resources should consider integration of CNMs as they tend to incur less expenses and, depending on their training and experience, as well as the patient risk level, can substitute for certain physician services. And, as discussed further below, efficient allocation of CNMs can free up physician resources to see higher acuity patients, thus generating increased practice revenue, and reducing physician and CNM burnout.

During our interviews, maternity practices described resource allocation as integral to the financial success of CNM integration. This included time allocated for inpatient labor and delivery services and for outpatient services including prenatal and postpartum care. We found, on average, CNMs who spend more time providing outpatient services generate less revenue than those who spend more time providing inpatient services. This is not unexpected as the largest proportion of payment and resource use for a maternity episode is for labor and delivery. Practices should examine whether an optimal proportion of the CNM's time can be allocated for inpatient services to perform vaginal deliveries.

A persistent concern, especially of small and midsized practices is the possible reduction in physician revenue associated with hiring CNMs. For example, there seems to be a perception that if a CNM joins a practice and takes on a portion of the practice's patients, there may be a reduction in the overall practice revenue because the physician sees fewer patients. However, this was not the experience of the several small and midsized practices we interviewed. Physicians we spoke with at these practices indicated, while they see fewer patients that have vaginal deliveries, their time is freed up to see more complex cases and patients with high-risk pregnancies. Because higher risk pregnancies and deliveries are reimbursed at higher rates, overall practice revenues increased. A few practices reported they hired CNMs specifically to reduce physician workload. Physicians at these practices indicated they encouraged and appreciated the purposeful reduction in call hours, experienced reduced burnout, and a more manageable caseload after the integration of CNMs.

Resource allocation will be dependent on the experience of the CNM and the level of collaboration between the CNM and the physician. More experienced CNMs may be able to confidently provide a wider range of services, or care for larger numbers of patients, which in turn generates more revenue for the practice. They may also be more efficient service providers, creating fewer expenses and generating more revenue for the practice.[16] Additionally, the relationships between CNMs and physicians also affect practices, particularly in California. State law requires physician supervision of CNMs who furnish or order drugs or devices, and caps the physician supervisor to CNM ratio at one to four (1:4).[17] Thus physician time is required for CNM supervision, which is an expense the practice must consider. Most practices we interviewed indicated they do not keep track of the amount of time physicians spend on CNM supervision activities, but they do track the supervising physician expense. In some practices, physician productivity targets are lowered to account for CNM supervision time. In other practices, physicians are attributed a portion of CNM Relative Value Units (RVUs) or reimbursement revenue to compensate them for time spent providing supervision.

Regardless of how physician supervision is financially accounted for, the amount of physician revenue-generating time is usually reduced when their time is required to supervise a CNM. From practice interviews, we learned more experienced CNMs require less actual physician supervision time than less experienced CNMs. Maternity practices integrating CNMs should consider how actual physician productivity could change due to CNM experience level and supervision requirements. Practices should also consider the amount of time physicians have available for CNM supervision activities. For small practices, integrating CNMs that are more experienced may be important to ensure that any decrease in revenue associated with reduced physician productivity is offset by CNM productivity. From practice interviews, we also learned physicians with positive, trusting relationships with CNMs spend less time on supervision activities. Practices may reap financial rewards in the longer-term from cultivating relationships between CNMs and physicians. Furthermore, in practices where the relationship between CNMs and physicians is promoted, physicians reported valuing and understanding the utility of CNMs to their practices. For more information about this relationship and how to achieve it, see PBGH's CNM Integration Guide.

16. While the experience level of the CNM can affect the resource allocation and financial position of the practice, workforce development is a consideration. For example academic medical centers, and practices that have the capacity to train may consider hiring recently graduated midwives to promote workforce development.

17. California Code, Business and Professions Code - BPC § 2746.51. Available at: http://codes.findlaw.com/ca/business-and-professions-code/bpc-sect-2746-51.html

Strategic Steps to Develop a Business Plan

Develop a Pro Forma

Once a practice has considered the payments methods and resource allocation for integrating a CNM, the next step is to develop a pro forma. A pro forma is a financial document intended to assist business leaders in making a key decision. It is based on assumptions and projects revenues, expenses, and profit to give the decision makers a general sense of the potential effect of a particular business decision. It should include details, such as expected revenues from specific lines of business and payer sources.

Expenses associated with a CNM: To estimate expenses associated with CNM integration, practices should consider:

- compensation type (i.e., salaried versus hourly) and amount;
- productivity bonuses;
- employee benefits, including health, dental, vision, and life insurance;
- malpractice premiums;
- expenses related to continuing education and credentialing,
- expenses related to rent/facilities and administration, and
- physician supervision expenses.

Revenues: To estimate revenues associated with CNM integration, practices should consider:

- volume of inpatient and outpatient services a CNM can or is expected to directly provide;
- payer mix (i.e., commercial versus Medi-Cal);
- payment model type and mix (i.e., FFS versus capitation or global case rate);
- payment rates for each payer and payment model type; and
- other revenues such as grants and donations, and revenue associated with faculty/teaching work.
- marginal revenues generated by physicians for additional time spent on providing higher-acuity services and treating higher risk patients. The additional physician time can be directly attributed to time freed up by the CNM

On average, in California, nurse midwives[18] earn approximately $64 per hour, or about 60% of OB/GYN's hourly salary of $106 per hour.[19]

To assist practices in calculating expected revenues, expenses, and financial outcomes associated with hiring a CNM, PBGH engaged Milliman to develop the CNM Practice Financial Tool (Tool).[20] The Tool is intended to estimate the financial value of adding and integrating CNMs into maternity care in California based on practice type and practice-specific characteristics.[21] The Tool provides a way for a practice to develop a hypothetical pro forma projection for one year showing the revenues and expenses for a CNM practice. The Tool is intended to support provider organizations' understanding of:

1. Expected patient panel associated with adding 1 full time employee (FTE) CNM;
2. Revenues generated by adding 1 FTE CNM;
3. Expenses incurred by adding 1 FTE CNM; and
4. Profit 1 FTE CNM could generate.

18. The Bureau of Labor Statistics defines nurse midwives as practitioners who, "diagnose and coordinate all aspects of the birthing process, either independently or as part of a healthcare team. May provide well-woman gynecological care. Must have specialized, graduate nursing education." Available at: https://www.bls.gov/oes/current/oes291161.htm

19. Bureau of Labor Statistics. (May, 2016). Occupational Employment and Wages. 29-1161 Nurse Midwives. Retrieved from: https://www.bls.gov/oes/current/oes291161.htm.
Bureau of Labor Statistics. (May, 2016). Occupational Employment and Wages, 29-1064 Obstetricians and Gynecologists. Retrieved from: https://www.bls.gov/oes/current/oes291064.htm.

20. To view and/or use the CNM Practice Financial Tool developed by Milliman, Inc. for Pacific Business Group on Health, please contact Pacific Business Group on Health.

21. The total business impact of integrating a CNM is not captured in the Tool. For example, the Tool does not estimate the effect of integrating additional CNMs on measures that are suggested by research, interviews with practices and hospitals, and discussed in the Pacific Business Group on Health CNM Integration Guide. These may include patient satisfaction, maternal-child health and healthcare outcomes. Another important financial driver may be additional physician time made available to provide higher-acuity services. As discussed in this report, these factors should be considered as part of developing a business case and plan when considering integrating CNMs into a practice.

Strategic Steps to Develop a Business Plan

Develop a Business Plan

Once the pro forma is completed and the practice has a sense of its financial positioning, it is important to conduct a market analysis, develop a clear business case, and a realistic business plan. Depending on the payer mix and current reimbursement levels, the pro forma may show that the practice is in the red. In this case, it is vital to develop a business plan with a growth plan that accounts for patient mix, payer mix, reimbursement models and resource allocation among CNMs and physicians.

Conduct a Market Analysis

All markets are local, which means that each practice should consider local factors and developing a business case and business plan with a growth plan. Questions to ask when conducting a market analysis include:

- What is the current and future service area for the practice?
- What is the demand for maternity services in the service area? Does that demand represent demand for CNMs and if not, is there potential for demand conversion (e.g., through marketing and education efforts)?
- What is the supply of clinicians and practitioners who provide maternity care services (CNM, OB/GYN, licensed midwives, doulas) in the defined market?
- Are there market leaders within the same service area or in other locations with similar characteristics? What makes them a market leader (e.g., market share, profitability, reputation)? What tactics did they employ to attain that status?

A well-constructed market analysis can help a practice understand the dynamics of their particular locale and plan accordingly.

Factors to Consider When Making the Business Case

A business case is the articulation of the value proposition and rationale for embarking on a new strategic direction or initiating a program. A well-defined business case should:

- Address why adding a CNM to a maternity practice is the right step
- Clearly state the expected impact to the "bottom line" of the practice
- Discuss how CNM integration can serve as a market differentiator or provide a competitive advantage to drive increased patient volume and revenue.
- Articulate the impact on other goals of the maternity practice including improved population health management, improved quality and access to care, patient experience, provider satisfaction, and efficiency
- Serve as an effective tool for leadership and champions to articulate the rationale for CNM integration

It is important to articulate the impact on other goals of the practice, especially if the practice is expected to be in the red during the initial start-up period. These may include factors that are not currently measured in terms of dollars but can have an effect on the revenue potential in the longer term. Examples discussed in the following section that are supported by the literature include quality of and access to care, patient satisfaction, and provider burnout/retention.[22]

> Efficient allocation of CNMs can free up physician resources to see higher acuity patients, thus generating increased practice revenue, and reducing physician and CNM burnout.

22. Mafi, J., Russell, K., Bortz, B., et al. (2017). Low-cost, high-volume health services contribute the most to unnecessary health spending. Health Affairs. 1701-1704.
Weil, A. (2017, November 21). The Practice of Medicine: Workplace Satisfaction In a Changing Environment. Health Affairs. Bethesda, MD.

Strategic Steps to Develop a Business Plan

Developing a Realistic Business Plan

Once leadership has agreed on the business case and rational for integrating a CNM, careful planning should be done to help ensure sustainability of the practice. Developing a business plan does not have to be complicated, but it is necessary, especially for practices whose pro forma projections are in the red for the initial year following CNM integration. Components of a business plan should address:

Target market

- What is the appropriate payer mix for sustainability?
- What is the appropriate patient volume target for sustainability?
- What is the growth plan to reach those targets (marketing plan, strategic partnerships, payer contracting strategy)

Payment models

- Are payment models aligned with encouraging efficient allocations of care between of CNMs and physicians?
- How can payment models be leveraged to meet the practice goals of maintaining quality while ensure sustainability?
- Is it a viable option to make contractual changes with payers to better align payment models that encourage CNM integration?

Resource Allocation

- What is the optimal resource allocation among CNMs and physicians (accounting for supervising physician time) to effectively use CNMs at the top of their license and free up physician resources to see higher-acuity patients?
- What is the optimal allocation of CNM time between providing inpatient and outpatient services to ensure sustainability?
- Have the physicians been experiencing burnout? Would adding CNMs address burnout issues in the practice?

Key Metrics and Milestones

- What are the agreed upon patient targets, revenue targets and what is the time period for achievements?
- What are other measures that align with the practice goals and would demonstrate value to payers and purchasers, such as quality of care, patient satisfaction, and access to care metrics?
- How will the data be collected, analyzed, and reported to ensure visibility for practice management and improvement efforts?

Financial Plan

- Establish time frames to review and update the pro forma projections (e.g., annually)

Strategic Steps to Develop a Business Plan

Other Factors to Consider When Making a Business Case

Quality and Access to Maternity Care

In California hospitals, low-risk, first-birth Cesarean section rates range from less than 15% to more than 60%,[23] and in 2014 approximately 60% of California hospitals did not meet the Healthy People 2020 target for low-risk first-birth Cesarean sections (23.9%).[24] While Cesarean sections are necessary in some circumstances—research indicates they are necessary for no more than 15% of births—they pose significant and sometimes avoidable risks.[25] These include for the mother: higher rates of hemorrhage, deep vein thrombosis, infections, and postpartum depression. For babies risks include higher rates of respiratory complications and neonatal intensive care stays.[26] Additionally, Newhouse, et al. (2011) found high evidence of reduced labor augmentation and narcotic use during labor and delivery for mothers cared for by CNMs compared with those cared for by other providers.[27]

Studies, dating back to the early 1990's and, as recently as this year, consistently find that mothers cared for by CNMs experience lower Cesarean section and procedure rates, and similar maternal-child health outcomes when compared with mothers cared for by other obstetric care providers.[28] For example, in a 2011 systematic review, researchers found substantial evidence from well-designed studies demonstrating the differences in Cesarean section rates between CNMs and other providers.[29] A recent study conducted by researchers at the University of California, San Francisco, Washington State University, and the Providence health system, found significant reduction in the use of Cesarean section, vacuum-assisted delivery, epidural, anesthesia, labor induction, and reduced maternal length of stay associated with CNM-led care compared with physician-led care for low-risk women.[30] Another recent study conducted in 2017 that controlled for patient demographics, time of hospital admission, and clinical risk factors, found women with low-risk pregnancies, who gave birth in hospitals with midwives, had lower odds of Cesarean section, non-indicated labor induction, and episiotomy compared with women with low-risk pregnancies who gave birth at hospitals without midwives.[31] Anecdotally, in 2009, New Mexico—a state where more than 30% of all births were attended by CNMs—had the lowest Cesarean section rate (22.8%) of all 50 states.[32] In comparison, in California in 2014, only 8% of births were attended by CNMs and nearly 33% of all births were performed using Cesarean section.[33]

CNM Philosophy of Care

The American College of Nurse-Midwives states the CNM philosophy of care is to affirm the power and strength of women by:

- Upholding their rights to equitable, ethical, accessible quality health care that promotes healing and health
- Health care that respects human dignity, individuality and diversity among groups
- Self-determination and active participation in health care decisions
- Watchful waiting and non-intervention in normal processes
- Appropriate use of interventions and technology for current or potential health problems
- Consultation, collaboration and referral with other members of the health care team as needed to provide optimal health care, and
- Individualized methods of care and healing guided by the best evidence available.[34]

23. Integrated Healthcare Association. (2017). Maternity Care. Retrieved from Integrated Healthcare Association: http://www.iha.org/our-work/insights/maternity
24. Joynt, J. 2016. California Health Care Almanac, Maternity care in California: delivering the data. California Health Care Foundation. Oakland, CA.
25. Pacific Business Group on Health. (2016). Transform Maternity Care. Retrieved from Pacific Business Group on Health: http://www.pbgh.org/maternity
26. Joynt, J. 2016. California Health Care Almanac, Maternity care in California: delivering the data. California Health Care Foundation. Oakland, CA.
27. Newhouse, R., Stanik-Hutt, J., White, K., et al. (2011). Advanced practice nurse outcomes 1990-2008: A systematic review. Nursing Economics, 230-250.
28. Newhouse, R., Stanik-Hutt, J., White, K., et al. (2011). Advanced practice nurse outcomes 1990-2008: A systematic review. Nursing Economics, 230-250.
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29. Newhouse, R., Stanik-Hutt, J., White, K., et al. (2011). Advanced practice nurse outcomes 1990-2008: A systematic review. Nursing Economics, 230-250.
30. Altman, M., Murphy, S., Fitzgerald, C., et al. (2017). The cost of nurse-midwifery: Use of interventions, resources, and associated costs in the hospital setting. Women's Health Issues, 434-440.
31. Attanasio, L., & Kozhimannel, K. (2017) Relationship between hospital-level percentage of midwife-attended births and obstetric procedure utilization. Journal of Midwifery & Women's Health. 1-9.
32. Martin, J., Hamilton, B., Ventura, S., et al. (2011). Births: Final Data for 2009. Hyattsville, MD: National Center for Health Statistics.
33. Joynt, J. 2016. California Health Care Almanac, Maternity care in California: delivering the data. California Health Care Foundation. Oakland, CA.
34. Our Philosophy of Care. (n.d.). American College of Nurse-Midwives. Retrieved from: http://www.midwife.org/Our-Philosophy-of-Care.

Strategic Steps to Develop a Business Plan

Interviews with supporting data from maternity practices and hospitals that were included in this review demonstrated CNMs had lower Cesarean section rates than national and California averages. Some practices we interviewed stated explicitly that they experienced reductions in their overall Cesarean section rates after integration of CNMs. One practice found the physician rate of Cesarean sections decreased after integration of CNMs, indicating a change in practice patterns for the entire maternity care team.

Other than the clear quality of care rationale, there is a business reason for reducing unnecessary Cesarean section rates: lawsuits and malpractice insurance rates. After neurosurgeons, obstetricians (OBs) are the most frequently sued doctors in the U.S., and one of the most common lawsuits against OBs is related to the timing and performance of Cesarean sections.[35] Through CNM integration, practices and hospitals may be able to decrease malpractice expenses by reducing the number of Cesarean sections they perform. This reduction would be on top of reduced direct costs associated with Cesarean sections.[36]

Quality of care can affect how maternity practices are perceived and their payment structures with payers. The Agency for Healthcare Research and Quality (AHRQ) publishes quality indicators payers can use to gauge the quality of practice and hospital care, including prevention, inpatient, patient safety, and pediatric quality indicators. Indicators relevant to maternity practices and hospitals include birth trauma/injury to neonate, low birth weight, obstetric trauma from vaginal delivery with and without instruments, Cesarean section delivery rate, and vaginal birth after Cesarean section delivery rate.[37] As discussed previously, research provides strong evidence for reduced rate of Cesarean sections and procedures in women cared for by CNMs compared with women cared for by other providers.[38]

Research also demonstrates rates of delivery using forceps and vacuum, NICU admissions, and low birthweight are lower for CNMs than for other providers.[39] Additionally, research found CNM-led care reduces adverse neonatal outcomes (hypoglycemia, respiratory distress, macrosomia, birth injuries, and congenital abnormalities) by nearly 25%.[40] Finally, data from 2007 to 2010 from the American Association of Birth Centers indicates lower-than-national-average rates of combined intrapartum and neonatal mortality associated with CNM care.[41] Based on a plurality of evidence, CNM integration may be able to improve the quality of maternity care practices and hospitals provide. As the maternity care payment landscape continues to evolve, practices and hospitals are likely to be impacted by increased use of alternative payment arrangements related to quality of care. For this reason, maternity care providers involved or interested in entering into alternative payment arrangements, such as value-based arrangements, shared risk arrangements, or pay-for-performance arrangements, should consider integrating CNMs into their practices.

Through CNM integration, practices and hospitals may be able to decrease malpractice expenses by reducing the number of Cesarean sections they perform.

Additional CNMs may improve the overall capacity of a maternity practice to see additional patients in a timely way. Improved "timeliness of prenatal care" is a HEDIS metric on which Medi-Cal managed care plans are measured. Improved HEDIS measures means increased "auto-enrollment" or members assigned to the plan. If a managed care plan were to view a contracting practice, or system as the reason for their success, plans may drive additional members to that provider. High quality of care scores and performance may also result in that provider as being seen as a "high-value" provider and a "provider of choice" for payers and purchasers.

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Strategic Steps to Develop a Business Plan

Patient Satisfaction

There is a body of evidence indicating CNMs can promote and improve patient satisfaction by providing a more supportive relationship with patients; an increased sense of control during the labor and birth experience; higher patient readiness for labor and birth; an increased sense of respect, compassion, and attentiveness; and general satisfaction with prenatal care.[42] A national patient satisfaction survey found CNM care ranked in the 91st to 95th percentile for maternity care.[43] According to practice interviews, patient satisfaction can be an important factor for patients selecting their providers for subsequent pregnancies, and to drive referrals for other expecting mothers. Practice interviews also indicated the CNM "philosophy of care" may have positive spillover effects on other maternity care providers, increasing patient satisfaction with other providers and the maternity practice as a whole.

Provider Burnout and Retention

CNMs can have a positive effect on maternity provider retention and burnout, however this seems to be contingent on the CNM integration strategy practices utilize. Practices who approached CNM integration as a way to reduce workload burden on physicians found physician workplace satisfaction improved, despite the potential for a reduction in their revenue. Additionally, practices who included physicians in the decision process to integrate CNMs also found physician satisfaction improved, whereas practices in which physicians felt they had little control or input in decisions around CNM integration were less satisfied with their practice environments and relationships with CNMs. Last, practices who provided specific activities and frameworks to structure the CNM-physician relationship found greater physician satisfaction than those practices who did not strategically cultivate the CNM-physician relationship.

Practices who provided specific activities and frameworks to structure the CNM-physician relationship found greater physician satisfaction than those practices who did not strategically cultivate the CNM-physician relationship.

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Conclusion

In summary, practices with CNM integration that were most likely to be financially sustainable had the following characteristics:

- Mix of payers, payment models, and payment rates that maximized revenue
- Allocation of CNM resources to effectively use CNMs at the top of their license and free up physician resources to see higher-acuity patients
- Allocation of CNM resources to generate more revenues through inpatient services

Caveats and Limitations

This work is subject to the terms and conditions of the Independent Contractor (Consulting) Agreement effective April 20, 2017 between Pacific Business Group on Health (PBGH) and Milliman, Inc. and revised statement of work dated August 1, 2017.

The information presented herein was developed with reliance on information provided by PBGH and publicly available sources. Milliman has not verified this information. If the underlying information is inaccurate or incomplete, our findings may likewise be inaccurate or incomplete.

This report is based on the current (2017) scope of work, supervision requirements, as well as other applicable California laws and regulations related to CNMs. If these laws or regulations were changed, aspects of this report may no longer apply.

Other limitations include:

- CNMs may generate revenues related to the provision of other non-maternity care services that are within their scope of practice, such as general gynecologic care and family planning. We did not consider these services in the development of this report.
- Milliman did not consider the use of other advanced care practitioners, such as nurse practitioners, who may be able to provide a subset of maternity services which CNMs can provide. Use of other advance care practitioners and how to allocate resources among all practitioners qualified to provide maternity care services may be an important consideration.

This work product was prepared solely to provide assistance to Pacific Business Group on Health. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends Recipient be aided by its own actuary or other qualified professional when reviewing the Milliman work product.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. Annie Man, FSA, MAAA, PhD is a member of the American Academy of Actuaries, and meets the qualification standards for performing the analyses in this report.