

## Chapter 1

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# The case for a physiologic approach to birth: An overview

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*Childbirth is normal until proven otherwise.*

Peggy Vincent

Picture yourself at a neighborhood clinic on a typical weekday. You are conducting a health care visit with a woman as her prenatal care provider; she is 32 weeks pregnant. You ask how she has been feeling—she is fine. Her fundal height is 33 cm, the baby feels vertex, fetal heart tones are 134 beats per minute, a 2-pound weight gain since her last visit. No, she has not experienced any bleeding or headaches, no contractions. Yes, she started prenatal classes this week and the instructor reviewed the signs of early labor. Transition to the hospital. You're the nurse admitting a woman in labor to the birthing room with the bed centrally located, the fetal monitor in an attractive wood cabinet next to the bed. You ask when her contractions began, the current frequency and duration, and if her baby has been moving. Her membranes are intact, vital signs are normal, fetal heart rate 148. While you turn down the bedcovers, she changes into a hospital gown and asks if water birth is possible; she read about it on a pregnancy website and thought it might be a nice option.

On the face of it, the daily experiences of many maternity care clinicians and the women we care for seem pretty normal, routine, and positive to a degree. We talk about pregnancy as a normal life process, yet women enter our care system where problems are anticipated rather than emphasizing the normalcy of pregnancy. The number and frequency of technological interventions continue to increase while the outcomes of care have worsened, with some recent abatement. Substantial national resources are spent on what is supposed to be a normal process. From the clinic to the hospital, how do we as nurses, midwives, and physicians provide a safe and high-quality experience for the women we care for during pregnancy and birth? How are we helping women plan for and achieve *their* goals and desires for their birth experiences?

Cesarean section has become the most common operating room procedure in America [1]. The U.S. cesarean section rate is nearly 33%, appearing to at least stabilize in 2010 and 2011 after rising by 60% from 1996 to 2009 [2,3]. The Healthy People 2020 goal is

**Table 1.1** U.S. maternity care data.

Measure	U.S.	International perspective	Year
Cesarean section	32.8%		2011
Preterm birth	11.72%		2011
Maternal mortality	12.7/100,000	Higher than 49 developed countries	2007
African American women	26.5		2007
White women	10.0		2007
Infant mortality	6.05/1,000	Higher than most OECD countries	2011
African American infants	11.42		2011
White infants	5.11		2011
Portion GDP to healthcare	17.6%	Higher than all OECD countries	2010

a moderate 10% reduction in cesarean births to *low-risk women* (term, singleton, vertex) from a baseline of 26.5% in 2007 to 23.9% by 2020, as well as a 10% increase in vaginal births among women with a previous cesarean [4]. At the same time, infant mortality, a measure used worldwide to reflect care to mothers and families, is 6.05 deaths in the first year of life per 1,000 live births [5]. This is higher than all but three member countries of the Organisation for Economic Co-operation and Development (OECD), an organization of primarily developed countries including Europe, the United States, Canada, and others [6]. Infant mortality in the United States has declined from 6.71 per 1,000 live births in 2006 after remaining stable from 2000 to 2005 [7]. An 8% decline in premature births occurred from 12.80% in 2006 to 11.72% in 2011 [3], along with increased efforts at preventing early elective births such as the March of Dimes and the California Maternal Quality Care Collaborative [8,9]. Maternal mortality was 12.7 per 100,000 live births in 2007 [10], a number that may be increasing [11], with the U.S. rate behind forty-nine other developed nations in 2010 [12]. (See summary data in Table 1.1.)

Not readily apparent in these statistics are significant racial disparities. For example, infant mortality among African American women was 11.42 per 1,000 live births, 2.2 times greater than the 5.11 for White women [5]. Maternal mortality was approximately 3 times higher for African American women compared to White women [10,11]. These disparities are inexcusable in a country with such vast resources; we must reverse these trends by assuring access to continuous high-quality health care [13]. Returning to a more normal or physiologic approach to maternity care including access to comprehensive continuous care to all women in the United States is one step in that direction.

## Spending and doing too much

Nearly 99% of U.S. births occur in hospitals [2], thus “liveborn infant” and “pregnancy and childbirth” are among the most common reasons for hospitalization [1], accounting for nearly a quarter of hospital discharges in 2008, and over \$98 billion in hospital charges (amount hospitals bill for a stay). Medicaid payment covers the cost of care for over 40% of pregnancies and births [14]. Of “pregnancy and childbirth” and “liveborn infant” hospitalizations in 2008, \$41 billion was paid by Medicaid and \$50 billion was paid by private insurers [15]. The United States spent 17.6% of gross domestic product (GDP)

on health care in 2010, more than any of the other OECD countries [6]. This phenomenon of doing more in perinatal care without a corresponding improvement in care outcomes was first referred to as the “perinatal paradox” more than 20 years ago [16]. Tremendous resources are allocated to maternal and infant care in the United States and yet our outcomes do not compare well with other developed countries. Although preterm birth has declined in recent years and the cesarean rate may have stabilized, there is much more work to be done.

The passage of the Affordable Care Act (ACA) in 2010 marked the first success in half a century of legislative attempts to change health care in the United States. When fully implemented, millions more Americans will have health care coverage. An important focus of the ACA is on improving health care and reducing costs by enhancing coordination of care for individuals with chronic conditions, reducing medical errors, reducing hospital-acquired infections, and reducing waste in the system. Improving health care, improving care outcomes including client satisfaction, and providing care at lower cost, often referred to as the triple aim, are not only possible but necessary. In addition to improved access to health care, ACA improvements in care options for women include family planning and breast and cervical cancer screening without co-pays, coverage for maternity and newborn care, home-visiting services during pregnancy and early childhood, restricting insurance companies from charging women higher premiums than men, and enhanced support for breastfeeding mothers [17].

Concerns about the increased use of technology and medical intervention overuse in maternity care have been expressed by clinicians, scientists, educators, and others around the world. Multiple health professions and health-related organizations worldwide have issued statements calling for a more normal or physiologic approach to pregnancy and birth. Concerned with the rising rates of interventions in maternity care in the United Kingdom, the Maternity Care Working Party published a normal birth consensus statement in 2007, supported by the Royal College of Obstetricians and Gynecologists and the Royal College of Midwives, defining “normal delivery” as spontaneous labor, labor progression, and birth, without the use of interventions such as labor induction, epidural, cesarean section, and forceps. The statement proposes action steps to increase the proportion of normal births in the four UK countries [18]. Other statements, in some cases endorsed by multiple health professions organizations, have called for support of birth as a normal process, reduced intervention, use of best available evidence, and woman-centered care [19–22]. More recently, in the United States, the American Academy of Family Physicians; American Academy of Pediatrics; American College of Nurse-Midwives; American College of Obstetricians and Gynecologists; American College of Osteopathic Obstetricians and Gynecologists; Association of Women’s Health, Obstetric and Neonatal Nurses; and Society for Maternal-Fetal Medicine endorsed a statement on quality patient care in labor and delivery identifying pregnancy and birth as normal processes requiring little if any intervention in most cases [23]. The authors called for effective communication, shared decision making, teamwork, and quality measurement in the provision of maternity care. Three U.S. midwifery organizations partnered in the development of a statement supporting physiologic birth—defining normal physiologic birth, identifying factors that disrupt and factors influencing normal birth, and proposing a set of actions to promote normal birth [24]. Reflecting the growing concern about

the U.S. cesarean section rate, authors of a report summarizing a recent workshop held by the American Congress of Obstetricians and Gynecologists, the Society for Maternal-Fetal Medicine, and the Eunice Kennedy Shriver National Institute of Child Health and Human Development, plus a similar commentary, recommended specific practices and actions for clinicians and health systems to prevent the first cesarean section [25,26]. At least on paper, it seems as if we all agree.

Internationally, a series of normal labor and birth conferences have been held beginning in England in 2002 and most recently in China in 2012 [27]. The conferences highlight current research and best practices in promoting normal birth. In the United States, authors of a key report on evidence-based maternity care have identified induction of labor and cesarean section as overused procedures. Additionally, midwives, family physicians, and prenatal vitamins were described as underused interventions [28]. Following that report, Childbirth Connection, a nonprofit organization focused on improving maternity care, held a multistakeholder meeting focused on just how the quality and value of maternity care could be improved in the United States. The resulting “Blueprint for Action: Steps toward a High-Quality, High-Value Maternity Care System” provides clinicians, payers, educators, and care systems with excellent proposals to improve our care to women [29]. Strong Start for Mothers and Newborns, a federally funded program under the Centers for Medicare and Medicaid Services (CMS) Center for Medicare and Medicaid Innovation, has provided funding to reduce early elective births and to test new models of enhanced prenatal care to meet the triple aim. The models include enhanced prenatal care in group prenatal settings, in birth centers, and in maternity care homes [30].

In order to improve quality, health systems need to measure and report on the care provided [29,31,32]. Maternity care measures are available for use to improve quality such as the Joint Commission, the National Quality Forum, and the American Medical Association (AMA). The AMA Physician Consortium for Performance Improvement measure set was developed by an interprofessional work group and includes measures related to overuse of certain care practices as well as a measure for spontaneous labor and birth [33]. These quality measure sets are available to health systems, clinicians, and payers to improve care and achieve better care outcomes. In addition to the national measure sets, a tool to examine the optimal processes and outcomes of normal pregnancies among groups of women has been developed and tested. The Optimality Index-US measures what is “optimal” or best possible care processes and outcomes—within a philosophy of aiming for the best outcome using the least number of interventions [34–36]. Higher Optimality scores in one setting over another may reflect an environment that supports a low intervention and physiologic approach to prenatal and labor care. Available as a research tool, clinicians can also use the index to examine institutional care processes and in peer review and other quality improvement processes [35].

## **Looking for something different**

Women have signaled that they are beginning to look for something different, evidenced by the recent increase in out-of-hospital births [37]. After declining since 1990, home births increased by 29% from 2004 to 2009 [38]. In 2010, the increase in both home and

free-standing birth center births was large enough to cross the “99% mark,” documenting more than 1% of births occurring outside the hospital [2]. While the absolute number may not seem impressive (47,000 of nearly 4 million), the change is a message that a segment of the U.S. childbearing population is looking for something else. Birth is important to women, often a transformative event that they remember clearly throughout their lives. Many women believe labor and birth should not be interfered with and women understand their right to full information and to accept or refuse specific care processes [39]. Women are asking for specific services in hospitals such as water immersion, aromatherapy, and acupressure as part of the support tools available for labor and birth. Although epidurals remain popular, women are increasingly planning for an unmedicated birth and express a desire to be in control of their birth process [40]. The author of the 2011 consumer book *Natural Birth in the Hospital: The Best of Both Worlds* [41] reaches out to the nearly 99% of women giving birth in hospitals, letting them know that they, too, can have a more normal experience in a hospital and how to get what they want.

Women’s partnerships with their care providers are of utmost importance. Return for a moment to your clinic—sit down for a few more minutes with your client. What is it that she and her birth support persons really hope for during her labor and birth? What does the best evidence suggest are the preferred care measures resulting in the least harm? Take a little more time to engage in meaningful discussions with her so she puts aside her fears about labor, forgets the anxiety she’s seen in births depicted in the media, and partners with you in understanding options and planning for her labor and birth. When you welcome her to the hospital birthing room, tell her that your goal is to accommodate her and her partner’s preferences. Although it sounds easy, and most likely what we are trying to provide, current data support an alternate story.

This book can help you—the clinician “at the bedside”—take a look into the clinic exam rooms and hospital labor units to see what else is possible. The various chapter authors are clinicians and educators just like you. Together we have worked to summarize recent research and other published information and provide some ideas, tools, and solutions to put into the hands of maternity care clinicians including midwives, nurses, physicians, and others. The authors herein argue for supporting and enhancing women’s confidence in their ability to give birth. At the same time we aim to increase the confidence of care providers to trust in the normal process and support women expecting a healthy outcome rather than looking for reasons to disrupt the process. It goes without saying that specific conditions warrant medical intervention and higher levels of care such as pre-existing diabetes, hypertension, and multifetal gestation, and yet even women with those conditions can still be supported as mothers, enhancing normal or physiologic processes as much as possible.

A word about language. We have chosen to talk about an approach to physiologic pregnancy and birth with a profound respect for the intricate changes that occur during both pregnancy and labor that result in what is commonly referred to as “the miracle of birth.” We use the word “birth” in most cases, to honor the work that women do in giving birth. “Delivery” is retained in some circumstances, primarily to refer to women delivering their newborns. “Normal” is meant to signify the usual process of being pregnant and giving birth without being disturbed by technology or other interventions that are not necessary in supporting the usual processes [42], with no intent to judge any woman’s

pregnancy or birth experience [43]. Every woman is unique; her process is also unique. Physiologic or normal is not just one variety or type, but each woman's individual experience to be supported, "managing" only when the experience is truly outside the range of normal and thus requiring additional intervention. Even then, aspects of a normal or physiologic approach can be retained, always remembering the unique woman giving birth. Finally, this book is based on a belief that it takes all types of maternity care providers working in partnership to improve maternity care. Thus we refer to providers and clinicians, and the authors represent midwives, nurses, physicians, and others.

## **A look inside**

Section 1 begins with a review of the normal physiologic changes of pregnancy as well as the physiologic uterine phases through pregnancy, labor initiation, continuation, and birth. Although the exact mechanism of the initiation of labor is not completely understood, the known components of pregnancy and labor physiology are fascinating, with increasing understanding through research on the intricacies of the labor process. With the goal of a physiologic approach as the norm, how do we adapt routine prenatal care to enhance women's confidence and understanding of pregnancy as normal and not an illness to be treated? In a woman-centered approach, women are supported to understand the range of tools for comfort in early labor, how to recognize active labor and the best time to transition to the birthing unit (if not the home), and mechanisms to support the process. We work to bring women's knowledge and understanding of the process as close to ours as possible and respect the knowledge and expertise each woman brings to her pregnancy. Originally proposed as a description of exemplary midwifery care, "the art of doing 'nothing' well" [44] is recommended here as an approach for all clinicians providing maternity care unless there is a compelling reason to do something more.

Section 2 begins with a theoretical perspective on promoting comfort for women in labor followed by chapters describing integrative therapies for pregnancy, labor, and birth. Maternity care clinicians may not have sufficient knowledge and understanding about integrative or complementary and alternative medicine (CAM) practices [45]. Midwives appear to have a more positive view of the effectiveness of alternative therapies and are less likely to believe that results of CAM are due to placebo effect than obstetricians [46]. Researchers investigating nurse-midwives' experiences with CAM therapies demonstrated that a majority of certified nurse-midwife respondents reported CAM use. Herbal preparations, pharmacologic/biologic, mind-body interventions, and manual healing/bioelectromagnetic therapies were used most often. Diet and lifestyle therapies were also common [47]. Women have increased their use of CAM therapies during pregnancy, thus maternity care providers need to become knowledgeable about these practices and facilitate communication, cooperation, and respect among alternative and conventional providers [48].

Within the context of promoting comfort, chapters on relaxation, touch therapies, water immersion and water birth, acupuncture and acupressure, and aromatherapy are offered as adjuncts to "doing nothing" in support of women during pregnancy, labor, and birth.

While not an exhaustive representation of possible integrative therapies, reviews of evidence and practical suggestions are offered as tools for maternity care clinicians to assist women in achieving their preferred birth experience. Authors aim to help clinicians understand these therapies better, including specific instructions on how to use certain techniques, as well as information on referring to providers of the therapy and how specific practices, such as acupuncture, are regulated.

Finally, section 3 focuses on the broader care and education systems. Individual clinicians can provide excellent one-on-one care and effect local change. In order to change maternity care in the United States, we must also work within our broader systems to shift to a more physiologic approach. Because nearly 99% of births occur in hospitals, the best opportunity to effect meaningful system change is to adjust the approach to care on labor units. Nurses are key in making that happen, and a group of labor nurses have proposed a possible solution after examining available evidence and related information. The other 1% of births occur outside the hospital; evidence supports the safety of this approach for carefully selected women when out-of-hospital practice is imbedded in a broader system of consultation and referral to more intensive care when needed. Respecting out-of-hospital birth as a safe environment for low-risk women who desire that care is critical. When transfer to the hospital setting is required, the process of transfer and receiving the woman and her family can be more seamless and positive with enhanced understanding and respect among clinicians from both settings.

For the change we desire to be permanent and system-wide, we must promote interprofessional collaborative practices that are built on a foundation of mutual trust and respect, with care decisions made by informed women and their families [23,24,49,50]. Maternity care providers must be educated together so that they will provide the seamless quality care women deserve, with clinical education occurring in environments where students learn with interprofessional care teams. Policy changes to support clinicians practicing together to the full extent of their education and training, in an environment where all women have access to quality health care, is the final critical component to improving maternity care. Legislators and policy-makers need to hear from their constituent clinicians in making those necessary changes.

National attention is focused on maternity care in a way that has not been seen in recent history, providing an opportunity to be transformative [29]. This group of authors, representing committed clinicians, educators, and researchers from multiple professions, invites you to come along on a journey to serve women today to build tomorrow's healthier families. Women and their families deserve the very best that we can collectively provide in an environment that respects pregnancy and birth as normal processes, that respects the women and their families/support networks to lead their care, and where we respect and trust each other as partners in providing excellent care. The change required is larger than any one clinician or profession can accomplish. Indeed, we are encouraged that health professionals are responding to calls for interprofessional practice and education. While we add our voices to the larger discussions in Congress, federal health-related agencies, educational settings, and corporate boardrooms, a more quiet yet powerful change can occur in our care settings through the conversations and plans we make with each other and with our clients every day—clinic by clinic, woman by woman, birth by birth.

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