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Exploring the Value of Group and Traditional Obstetrical Appointments to Reduce Health Disparity

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Abstract

Disparity in health outcomes is influenced by socioeconomic factors that may include access to important healthcare information in a culturally sensitive way. Can a group appointment model like the CenteringPregnancy model provide a more effective means for engaging Spanish-speaking pregnant women? Research studies using the group prenatal appointment model show increased pregnancy knowledge, readiness for labor and higher satisfaction compared with individual prenatal appointments. This paper discusses the importance of reducing disparities in birth outcomes using a group appointment model conducted in partial fulfillment for the Doctor of Nursing Practice degree.

Introduction

In addition to direct care, Doctor of Nursing Practice /Nurse Practitioners (DNP/NP) emphasize care of individuals' understanding of the practice context in order to document practice trends, identify potential systemic changes, and make improvements in the care of their particular patient populations in the systems within which they practice.

Raphael (2008) reinforces the social concept of need:

> Social determinants of health are the economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole. Social determinants of health are the primary determinants of whether individuals stay healthy or become ill (a narrow definition of health). Social determinants of health also determine the extent to which a person possesses the physical, social, and personal resources to identify and achieve personal aspirations, satisfy needs, and cope with the environment (a broader definition of health). Social determinants of health are about the quantity and quality of a variety of resources that a society makes available to its members. (p. 16)

Debate exists over what causes health disparities among ethnic and racial groups (WHO 2008). However, it is generally accepted that disparities can result from three main areas: (a) personal, (b) socioeconomic and (c) environmental characteristics among ethnic and racial groups. Evidence continues to evolve of the confluence of the social determinants of health on community health (Goldberg, 2004). These determinants include barriers certain racial and ethnic groups encounter when trying to enter into the healthcare delivery system and from the quality of healthcare different ethnic and racial groups receive (Kaiser Foundation, 1999).

Disparities in early and adequate prenatal care and infant/maternal outcomes still exist between white and nonwhite populations. Medicaid expansions are intended to improve outcomes, although eligible women often delay enrollment and barriers to healthcare remain (USDHHS, 2000).

Despite the presence and use of safety net providers that do increase prenatal care use among minorities, troubling disparities still exist between white and nonwhite populations in the United States in terms of early and adequate prenatal care and pregnancy outcomes, such as infant/maternal mortality and low birth weight (LBW) (Martin, 2003). For example, whereas 68% of black non-Hispanic and Hispanic women received early (by the fourth month) and adequate (80% or more of recommended visits) prenatal care in 2002, 79% of white non-Hispanic women did not (National Center for Health Statistics, 2005). The Healthy People 2010 goal is 90% for all groups (USDHHS, 2000). Both LBW and preterm birth have been associated with increased risks of infant mortality and developmental disabilities, such as mental retardation and cerebral palsy (Avchen, Scott, & Mason, 2001). These disparities remain despite large investments in the public health infrastructure, expansions of Medicaid coverage for low-income women and infants, income policies and a decade of economic growth, now overshadowed by a stressed economy.

Eliminating disparities in infant mortality and the use of pregnancy- and delivery-related medical care remain critical goals for 2010. Lu (2003) uses The National Institutes of Health (NIH) assertion that one of the greatest research challenges is "unraveling the underlying reasons for ethnic variations in low birth weight and preterm delivery" (p. 16). This evidence lends support to policies to maintain safety net providers, which are perhaps better equipped than others to serve low-income populations; policies should encourage participation extending to all

racial/ethnic groups by office-based healthcare providers (USDHHS, 2000). The role of community healthcare facilities, which are more likely to participate in Medicaid and group appointments, should be considered. The community health center setting, by law, is located in medically underserved communities where they play a critical role in providing care to minority populations. Although non-Caucasians represent one-third of the U.S population, half the patients who receive care at community health centers are persons of color (Rosenbaum, 2009).

A broad set of factors related to racial and ethnic health disparities affect trust, perceived eligibility, and need (Smedley, 2002). These factors include cost barriers, poor services in poor communities, cultural and communication barriers, fear of the healthcare system and problems in relationships between patients and providers. (Mullins,2005) The clear, efficient group appointment model can meet many patient needs and healthcare goals to reduce healthcare disparities. Improved self-management practices are positively influenced by prenatal education and group dynamics (Walker, 2008). Lu's life-course perspective sees socioeconomic status, race, racism, healthcare, disease status, stress, nutrition and weight status, birth weight and a range of behaviors as some of the key protective and risk factors that may affect health outcomes (Lu, Kotelchuck, Hogan, Jones, Jones, & Halfon, 2009).

Group prenatal appointments may be a just way to address racial and ethnic disparities and are in alignment with Healthy People 2010, an important federal guideline to promote improvement of health and access to care, in increasing pregnancy knowledge and rates of breastfeeding in the United States (USDHHS, 2000). Sharon Rising (1998) conceived the CenteringPregnancy (CP) group prenatal care approach, which offers consistently prepared group facilitators and a curriculum containing the same basic components as individual care. The education, support, and health assessment were always a part of the CP model and are

gained from the interactions with group facilitators, guest speakers, and the pregnant women in the group (Walker, 2008).

Normal infant weight for gestation, weeks of gestation at birth, and degree of breastfeeding retention are markers associated with both pregnancy knowledge and pregnancy outcomes associated with the group appointment learning opportunities. (Rasmussen, 2009) While women cannot often alter some of the risk factors that are associated with adverse perinatal outcomes (e.g. race/ethnicity and past obstetric history), they can adjust their activities to decrease the possibility of poor birth outcomes (USDHHS, 2000).

Why are group visits beneficial for Hispanic prenatal patients?

Hispanics constitute the largest and fastest-growing minority group in the United States, and this group has experienced a 57.9 percent increase in population between 1990 and 2000 (U.S. Census Bureau, 2004; Pew Hispanic Center/Kaiser Family Foundation, 2002). In 2004, there were 40.4 million Latinos in the United States, an estimated 14.2 percent of the population (U.S. Census Bureau, 2004; Pew Hispanic Center/Kaiser Family Foundation, 2005). The Hispanic population is projected to rise to 47.7 million by 2010 and 60.4 million by 2020 (Pew Hispanic Center/Kaiser Family Foundation, 2005).

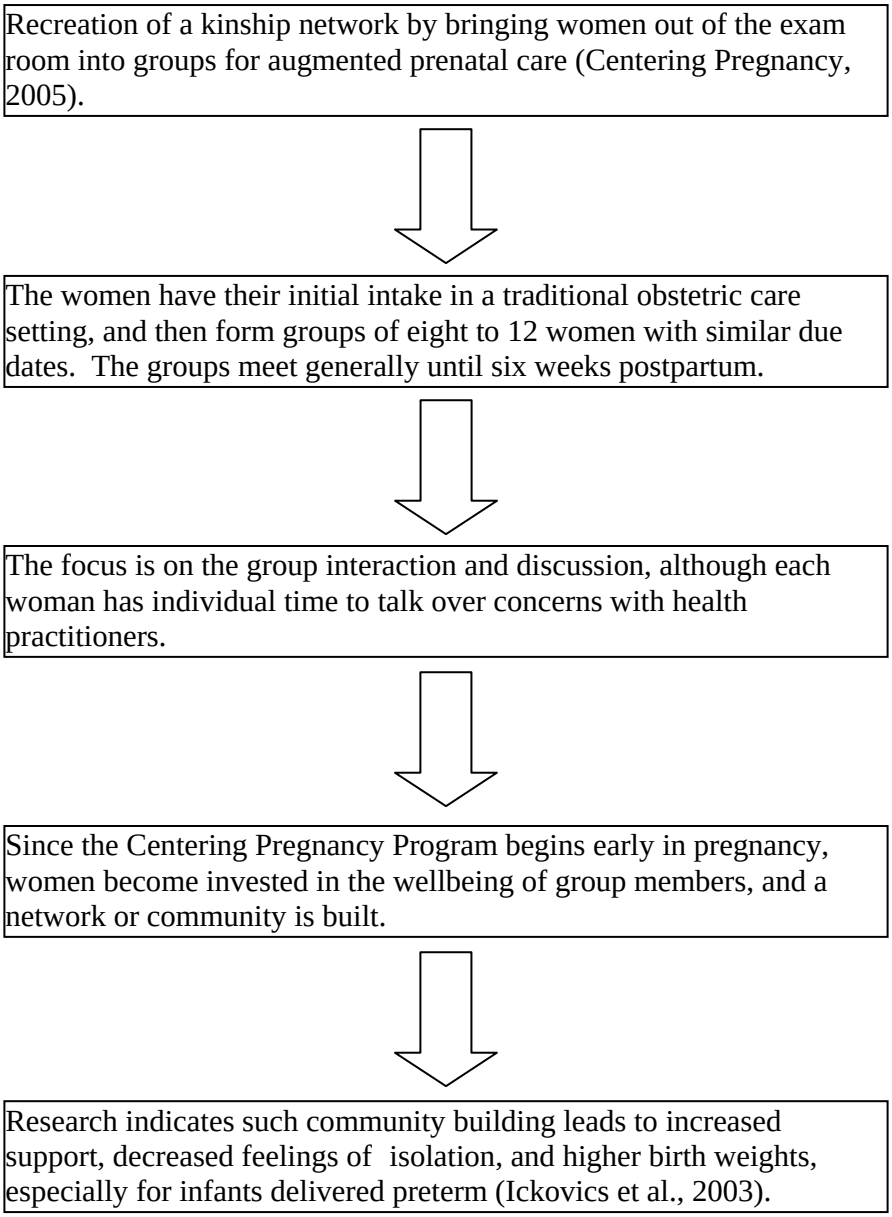
In the Hispanic culture, social support is a key element of community and its importance to one's sense of wellbeing. (Marks, 2005) Groups provide women with social support, which is built through actions from others that contribute to a feeling of inclusion and importance and to the development of a network of belonging. In a culture of idiom, language, child rearing and birthing custom familiarity, the relationship of social support with pregnancy outcomes suggests

that women with high life stress and low psychosocial assets or support experience more pregnancy complications, postpartum depression, and adverse neonatal outcomes (Norbeck, 1989). Although lack of social support is related to poorer pregnancy and postpartum outcomes, positive social support appears to be related to better pregnancy outcomes, including improved fetal growth and increased infant birth weight. Baldwin (2006) found that women who participated in CenteringPregnancy groups perceived more support from their significant others than those receiving individual prenatal care. It is possible that the provision of resources and information offered in-group care could help mitigate physical and psychological stressors in pregnancy.

Groups honor a pregnant woman's need for affiliation and provide opportunity for skill building, attitude change, self-responsibility and the development of social support and community as members share their common life experiences. In CenteringPregnancy groups, women share the common focus of pregnancy, but all come with different experiences and challenges. The group may collectively create solutions or suggest coping mechanisms. In addition, the group format allows for a variety of learning experiences – auditory, visual, and experiential – which uphold the principles of adult learning (Brookfield, 1995). Studies in several areas of healthcare attest to the improved health outcomes of those receiving care in groups.(Hamman,1989) *Caring for Our Future* (1989) outlines basic objectives for prenatal care, which include the pregnant woman, the fetus and infant, and the family. Potentially the most difficult objectives to fulfill in traditional care are those listed under family objectives: (a) Promoting healthy family development and reducing family violence, (b) reducing unintended pregnancies, and (c) promoting the use of community resources (United States Public Health Service, 1989).

Hispanics tend to view the family group as a primary source of support. Families are broadly defined, close-knit, and emotionally and financially supportive. The eldest male is typically the authority figure, and gender roles are traditional. The whole family, not an individual, makes important decisions. Elders often provide childcare so that children and spouses can work. In traditional Hispanic families, children are highly protected and very dependent upon their parents. They are expected to live with their parents until they marry. Punishment is often emphasized over positive rewards. Children are taught to avoid confrontations with their parents and elders and to be obedient, respectful and shy (Norbeck, 1989). Kinship is another way of describing family and translates well to the CP model of group appointments (Table 2).

Table 2: Value of Kinship Networks (Group Appointments)



A Model for Equity

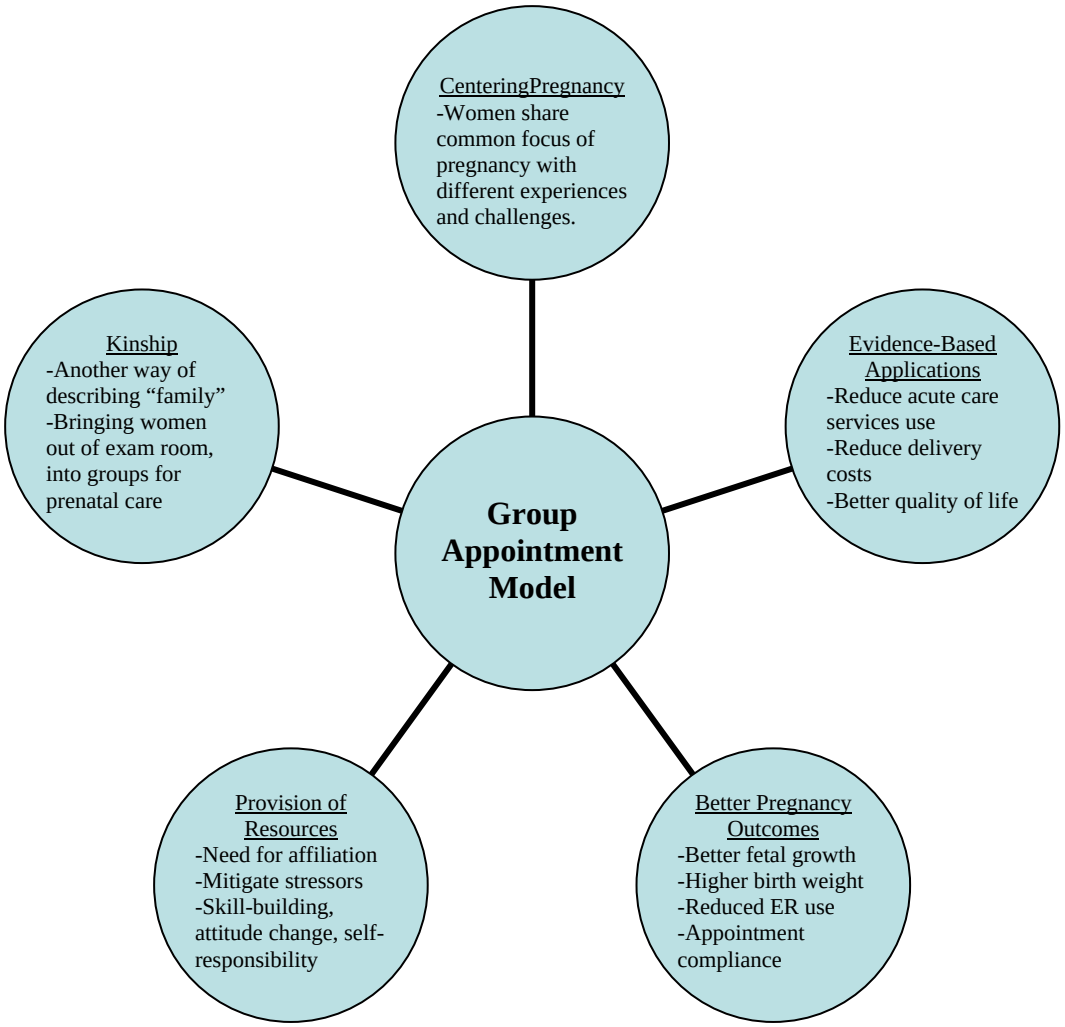
In a formal group prenatal model based on the CenteringPregnancy prenatal group appointment, eight to 10 women with similar gestational ages begin their group care after their initial obstetric exam, usually around 12 to 16 weeks. There are 10 two-hour sessions following the usual prenatal visit schedule of four-week visits until the 28th week of pregnancy, followed by bi-weekly visits until the last session (Rising, 1998). During the last month of pregnancy, healthy women can be seen every other week according to the Guidelines for Prenatal Care or may be seen individually, if needed (ACOG, 2009).

During each session, women complete self-care activities, including checking their blood pressure using digital wrist or arm cuffs, measuring their weight, and determining their gestational age using a standard gestational age wheel. The educational component is guided by an extensive curriculum developed by the Centering Healthcare Institute (CHI) based upon the educational needs of pregnancy, current recommendations of leading healthcare groups and organizations, and current research. A facilitative leadership style is used to guide the discussion of the group, and self-assessment sheets help to guide discussions about common pregnancy topics like nutrition, contraception, labor, birth, and parenting issues. Patient-centered group facilitation training is offered nationwide for prenatal group appointments (Rising, 2004).

Women in the CP groups share their concerns and develop supportive relationships with one another throughout the six to 10 sessions. Women often exchange contact information, thereby creating opportunities for mutual support during and after pregnancy. Knowing the community culture that is being served allows for gathering and sharing information, as a means of enhancing a familiar and open environment. In prenatal care, the use of the

CenteringPregnancy model for group care overcomes some of the limitations that variability in the group presentation can be avoided. The group facilitator skills (motivational interviewing, presence of behavior-specific objectives, and patients confidence level) are uniformly addressed in the curriculum and training provided by CenteringPregnancy. (Lorig, 2003)

Figure 1: Group Pregnancy Model Diagram



Group problem solving and social support may also reduce perceived barriers to behavior change. Group visits may reinforce patients' self-efficacy (i.e., judgment of their capabilities to carry out the specific tasks necessary to achieve a desired goal), which is itself strongly

associated with successful chronic disease self-management. (Marks 2005) Modeling, or seeing that others have accomplished the desired behavior and overcome obstacles, is another powerful contributor to patient self-efficacy. (Lorig, 2003)

Baldwin (2006) comments on the effect of traditional prenatal care versus a group model of care, CenteringPregnancy, on maternal knowledge of pregnancy, social support, health locus of control and satisfaction. The group appointment model of care is utilized in pregnancy, pediatrics, geriatric and chronic conditions management. These models of care have demonstrated evidence-based applications in reducing utilization of acute care services, reduction in delivery costs, improved quality of life, knowledge, health behaviors, improved self-esteem and patient and provider satisfaction (Beck, 1997; Rising, 1998; Trento,2001; Trento 2005).

The group appointment model based on the CenteringPregnancy model could meet the needs of the Hispanic prenatal patient population. In Hispanic culture, social support is a key element of community and its importance to one's sense of wellbeing. Groups provide women with social support (Lipson 1996), which is built through actions from others that contribute to a feeling of inclusion and importance and to the development of a network of belonging. In a culture of idiom, language, child rearing and birthing custom familiarities, the relationship of social support to pregnancy outcomes suggests that women with high life stress and low psychosocial assets or support experience more pregnancy complications, postpartum depression, and adverse neonatal outcomes (Norbeck, 1989). Although lack of social support is related to poorer pregnancy and postpartum outcomes, positive social support seems related to better pregnancy outcomes, including improved fetal growth and increased infant birth weight (Martin, 2003). Baldwin found that women who participated in CP groups perceived more

support from their significant others than those receiving individual prenatal care (2006). The provision of resources and information offered in-group care might help mitigate physical and psychological stressors in pregnancy.

Additional Group Appointment Models

Book Reviews about Group Medical Appointments

Book Reviews

Six months ago, I was given an introduction to the group appointment model based on CenteringPregnancy. I was amazed at the format and curriculum in serving like-dated prenatal patients and did the group facilitator training workshop soon after. The model was used in a variety of settings and I wondered what else had been done to promote other models. Edward Noffsinger, PhD., in the Bay Area, had written extensively about a group model he developed in an HMO setting called the shared medical appointment (SMA) model used for about 20 years in a variety of practices throughout the United States (mostly with Kaiser Permanente in California, Palo Alto Medical Foundation in California, and Harvard Vanguard Medical Associates in Massachusetts).

Noffsinger's *Running Group Visits in Your Practice* book is an excellent compilation of information on the subject of SMAs. In it, he describes in depth all aspects of the process of running SMAs, including consideration of the idea and getting the SMA "ball" rolling; management issues of scheduling, billing, and record keeping; and systematic conduct of visits. He includes it all, steadfastly walking readers through the evidence supporting the promises and the inevitable pitfalls.

Noffsinger describes in detail each of the three most common types of SMAs: cooperative healthcare clinics (CHCCs), physical shared medical appointments (PSMAs), and drop-in group medical appointments (DIGMAs). In CHCCs, the same group of 10 to 20 high-utilizing patients with similar chronic illnesses are seen in monthly group visits of 2 hours, during which time they participate in educational sessions and are seen individually (separately and briefly) by the provider. In PSMAs, used in primary and specialty care when a private examination is needed, physical examinations are conducted sequentially on 6 to 9 patients in separate examination rooms over 45 minutes, followed by a group session of equal duration in which each patient's specific medical needs are reviewed communally. However, DIGMAs are clearly the author's preferred model. In this SMA type, groups of 12 to 15 preselected patients, with either similar or varied diagnoses, meet with a physician, behaviorist, medical assistant, nurse, and dedicated documenter for 90 minutes. The clinician briefly interviews and examines patients in a group setting; the behaviorist facilitates the meeting and group process; the medical assistant and nurse attend to routine tasks (such as vital signs and preventive care issues); and the documenter enters notes into the chart. Using such team-based care (and including patient participation as an integral part of the medical interaction) is why Noffsinger suggests that DIGMAs can increase patient and clinician satisfaction, improve clinic access, and boost a provider's productivity.

An accompanying DVD includes a didactic review of SMAs, and a DIGMA training session. It offers a number of forms readily adaptable for any practice, including fliers, confidentiality releases, and patient informational packets. The book is a comprehensive guide to setting up, maintaining, and sustaining a model for group appointments in a practice.

What Works, Effective Tools & Case Studies to Improve Clinical Office Practice is another title associated with the utility of group appointments. Suzanne Houck is President and CEO of Houck & Associates, a health care management-consulting firm with a background as a nurse practitioner. Her book is a practical guide to sustainable improvement in outpatient care and medical practices. Things as simple as handbooks on how to use the system, keep well have been shown to improve access, utilization and patient satisfaction. Such information is shared in welcoming group sessions done in a relaxed environment. Many more case studies, strategies, useful tools for "seeing" and managing the patient experience are explored and examples are provided for use.

An interview with DeeAnn Schmucker MSW, LCSW was done because of her expertise and experience in promoting the use of group medical appointments (GMA). The group support aids the patient in-group appointments to make changes. The 'quality chasm' refers to the state of medical knowledge and the care actually delivered to patients. (Institute of Medicine, 2001) An alternate delivery system is discussed in her book "Group Medical Appointments." (Schmucker, 2006) The GMAs had a goal of improving patient and provider satisfaction, and to increase access to care. An opportunity to address a wide range of issues, make choices about their life, develop an action plan for understanding and managing the experience of their illness

are a few of the expected outcomes. The GMAs promote a supportive healing environment, and a partnership between patient and provider.

Other approaches to GMA were developed in the 1990s at Kaiser Permanente. Facing deteriorating access, substantially increased workloads, growing patient demands and expectations, morale issues, and unruly large patient panel sixe

Group Medical Appointments by DeeAnn Schmucker gives experienced information for increasing patients' and providers' satisfaction and level of care. This is a resource detailing possibilities afforded by group medical appointments, including a range of support afforded by the group model, a patient centered focus, an efficient, cost-effective treatment model. Ms Schmucker has years of experience using group medical appointments. The appointment models reflect shifts in how medicine is practiced, in relationships between provider and patient, in the number of patients who must be treated, and the nature of their conditions. She includes information on financial cost analysis, as well as systematic instructions, tools, scripts, and marketing materials to help the provider create a GMA that best addresses the needs of the practice and the patient.

Confirming the value

In order to determine the value of the group versus traditional methods of prenatal appointments, a pilot chart review was done. A thorough retrospective chart review compares prenatal and infant outcomes of birth weights, number of prenatal visits and breastfeeding retention in Spanish-speaking women by reviewing those who received prenatal care via group appointments, based on the CenteringPregnancy model, with those who engaged in traditional,

one-on-one prenatal appointments from a Northern California community health center (Table 1).

A convenience sample of the most recent 100 prenatal patients, with expected date of delivery by December 31, 2009, were divided evenly between traditional and group prenatal care. The sample was gathered from prenatal rosters listing Spanish-speaking patients, date entered for care and participation in-group versus individual prenatal care. A chart review tool used by the Academy of Pediatrics (Gearing, 2006) was modified to fit the variables of interest in this population; the tool has been used in other populations to conduct pilot studies allowing researchers to assess feasibility of the planned investigation, reliability of the data abstraction instrument, effectiveness of the protocol, availability of the data, and address any sampling concerns (Gearing, 2006). The reliability and validity of this chart audit tool has not been established in this population. IRB has been approved by the county IRB review board and Chief Nursing Officer, and University of San Francisco IRB review chair and approved.

The prenatal charts were limited to Spanish-speaking patients who formed the population of interest. Subjects were retrospectively identified using *language preference*, which is listed in the chart demographics that can be obtained from the billing codes, listing the prenatal patients as *in-group* and *traditional* prenatal settings. Patient names were verified by prenatal clinic rosters kept in clinic.

Prenatal and infant outcomes were defined as: (a) maternal weight gain, (b) infant birth weight, (c) gestational age at delivery and (d) breastfeeding retention. The birth weights, gestational weeks at delivery and breastfeeding retention results will provide an understanding of pregnancy knowledge gained from the group appointment information compared with traditional prenatal appointments (Figure 3). Previous studies comparing group prenatal appointments and

traditional care reflect improved infant birth weights, even those born prematurely, lower preterm delivery rates, increased rates of breast feeding initiation and adequate prenatal care (Ickovics, 2003; Grady, 2004; Kilma, 2003).

Data analysis

Group Prenatal Versus Traditional Appointments

Fifty charts were reviewed, each from selected group and traditional prenatal rosters of Spanish-speaking patients. Birth weight, maternal weight gain for pregnancy from first recorded weight to last, were retrieved from clinic chart notes. Breast-feeding at delivery as recorded on delivery discharge notes, breast-feeding at postpartum check as recorded on clinic chart note, and weeks of gestation as recorded on delivery discharge note were captured in a spreadsheet with medical record numbers and names eliminated and individual data associated with a spreadsheet number (Table 4).

After a review of the data by a committee content expert and seasoned researcher, the results of the review are as follows.

Traditional versus Group Prenatal

Table 3

	Traditional	Group
Weight gained during pregnancy	28 lbs.	24 lbs.
Birth weights	13 > 4,000 g	3 > 4,000 g
Macrosomia	24%	8%
Weeks gestation at delivery	39.17	39.58
Number of women breastfeeding at delivery	50	48
Number of women breastfeeding at postpartum check	50	47

	Traditional	Group	t =	P .05
Weight gained during pregnancy	24.73	25.15	.85	NS
Birth weights	3504.40	3570.55	.53	NS
Weeks gestation at delivery	39.17	39.49	.27	NS

*Macrosomia Birth Weight >4000 gm	13>4,000 g 24%	3 >4000 g 8%		

# of women breastfeeding at delivery	50	48
# of women breastfeeding at postpartum check	50	47

Group Prenatal Appointments

Fifty charts were reviewed, selected from Group Prenatal rosters of Spanish speaking patients. Birth weight, maternal weight gain for pregnancy from first recorded weight to last, retrieved from clinic chart notes, breast feeding at delivery as recorded on delivery discharge notes, breast feeding at postpartum check as recorded on clinic chart note, and weeks of gestation as recorded on delivery discharge note were captured in an excel spread sheet with medical record numbers and names blinded and individual data associated with an excel spreadsheet number.

After a review of data by a committee content expert and seasoned researcher, the 50 charts reviewed, selected from Group prenatal Spanish speaking patient appointments showed: 1.) average of 24 pounds of weight gained for pregnancy, 2.) 3 birth weights >4000gm=8%

macrosomia, 4.) An average of 39.58 weeks gestation at delivery, 5.) 48 listed breastfeeding at delivery. 6.) 47 listed breastfeeding at postpartum check.

Fifty charts were reviewed, selected from Traditional Prenatal rosters of Spanish speaking patients. Birth weight, maternal weight gain for pregnancy from first recorded weight to last retrieved from clinic chart notes, breast feeding at delivery as recorded on delivery discharge notes, breast feeding at postpartum check as recorded on clinic chart note, and weeks of gestation as recorded on delivery discharge note were captured in an excel spread sheet with medical record numbers and names blinded and data associated with an excel spreadsheet number.

After a review of data by a committee content expert and seasoned researcher, the 50 charts reviewed, selected from Traditional prenatal Spanish speaking patient appointments showed: 1.) average of 28 pounds of weight gained for pregnancy, 2.) 13 birth weights >4000gm=24% macrosomia, 4.) An average of 39.17 weeks gestation at delivery, 5.) 50 listed breastfeeding at delivery. 6.) 50 listed breastfeeding at postpartum check.

With the national average of macrosomia at 10%, a slightly lower rate of 8% in the group appointment is encouraging and the value of 24% in the traditional group warrants additional review of similar populations. This is important because macrosomia is a link to obesity in later life.

Indications for future research

Obesity is a significant health issue in the United States with 30% of the US population considered obese defined as a body mass index above 30 kg/m2.(Center for Disease Control 2009) Obesity is associated with long-term health complications including diabetes and cardiovascular disorders. During pregnancy, obesity is associated with an increased risk of fetal macrosomia and birth injury, as well as increased risk of gestational diabetes, preeclampsia, cesarean birth, and preterm birth. The intrauterine environment has been purported to influence the early childhood and lifelong risk of obesity and the metabolic syndrome (obesity, hyperlipidemia, and insulin resistance [IR]). (Yogev, 2009).

Factors associated with increased risk for overweight or obesity in infancy and early childhood include excessive maternal weight gain, smoking during gestation, shorter-than-recommended duration of breast-feeding, suboptimal amounts of sleep during infancy. Such exposures during early development program a person's long-term regulation of energy balance and may have epigenetic effects: 1. exposures probably influence the development of hypothalamic circuits that regulate body weight, 2. endocrine pancreatic function, 3.changes in the proportion of lean versus fat body mass, 4. and other cycles of metabolic programming. The Institute of Medicine guidelines for maternal weight gain in pregnancy provide an estimate for population goals, but may be inadequate for individual patient needs. (Rasmussen, 2009)
A better determination of caloric and exercise needs may allow the development of more specific dietary recommendations during pregnancy. Thoughtful nutrition recommendations will result in improved maternal and neonatal outcomes. As the intrauterine environment may have important impacts on neonatal and childhood metabolic and cardiovascular outcomes, creation of a favorable intrauterine environment through optimal maternal nutritional and exercise

guidelines may reduce well-documented problems such as fetal macrosomia, birth injury, cesarean delivery, and later predisposition toward childhood obesity. (Rasmussen, 2009)

Diabetes is on the rise in the US, and it is an epidemic that is hitting Hispanic and African American patients even harder than it is hitting Caucasian patients. Hispanic/Latino Americans and non-Hispanic African Americans are 1.7 and 1.8 times more likely to have diabetes than non-Hispanic Caucasian. (Centers for Disease Control and Prevention [CDC}, 2005) Minority patients are less likely to have control of their diabetes than are Caucasian patients. They also have a higher prevalence of diabetic complications. For example, Latinos have higher rates of renal disease and retinopathy than do Caucasians. (Carter, 1996 Lanting, 2006) Some of these disparities in diabetes are because of non-modifiable factors, such as aging or genetics. Some are because of other factors such as socioeconomic characteristic disparities such as educational level, household income, residential area (with access to healthy food and safe places to exercise). (Huang, 2009)

Access to quality medical care disparities include health insurance coverage, continuity of care, quality of care, interactions with health care providers, intensity of appropriate medications. Clinically, disease characteristics are affected by disparities, such as, disease severity, diabetes duration, comorbidities, and depression. Cultural attitudes and behaviors around chronic diseases like diabetes mellitus self-management, self-efficacy, diabetes-specific emotional distress can affect adherence to therapeutic regimen. Of these, patient adherence is one of the most important. (Heisler, 2007) Adherence to national screening and treatment guidelines, clinical trial recruitment and participation, addressing language and geographic barriers, and increasing access to insurance are part of the coordinated efforts required to reduce health disparities. (Heisler, 2007) If the trend is to see the onset of the disease at an earlier age

related to prevalence of obesity and predisposing factors like parental obesity, macrosomia, the odds of living well with any chronic disease will decrease the risks of complications and co-morbidities. (CDC, 2005) Those who were born from 1946 to 1955 did not reach the level of obesity until they were in their 30s. Those who were born between 1936 and 1945 did not get to that weight category until their 40s, according to the report published in the April 12 2010 issue of the *International Journal of Obesity*. (Wang, 2010)

Implications for practice

The clinical implications for practice are that the group appointments allow more time for self-management education, skill-building, and provider-patient interaction. Group education reinforces messages received in individual appointments, increases perceived benefits, and provides social persuasion and social action cues. Additionally, topics are addressed, such as medical and pharmaceutical management, nutrition, exercise, and psychosocial contributors to health and illness. (Noffsinger, 2003)

Obesity, viewed as an epidemic, can be seen in phases. The first phase was recognized in the early 1970s and is ongoing: average weight is progressively increasing among children from all socioeconomic levels, racial and ethnic groups, and regions of the US. The current phase is characterized by the emergence of serious weight-related problems. It is projected that such medical complications of obesity will lead to life-threatening disease. (Heisler, 2007) Without effective intervention, the next phase of the epidemic will entail an acceleration of the obesity

rate through transgenerational mechanisms. Changing the face of knowledge sources and acquisition has the power to choose the shape of things to come. (Ludwig, 2007)

Addressing health disparities and inequities through group appointments is one way to provide the opportunity to learn what the evidence has taught us health care providers. If the chance to understand that some of the risks for obesity may lay in-utero and the group appointment model shows less macrosomia, it is pointing us toward a healthier outcome. The direct practice of APNs is characterized by the use of a holistic perspective; the formation of therapeutic partnerships to facilitate informed decision making, positive lifestyle change, and appropriate self-care; advanced practice thinking, judgment, and skillful performance; and use of diverse, evidence-based interventions in health and illness management (Brown, 2005). The lived experience of the group appointment reflects an opportunity to offer patients such a holistic, evidenced based source to discover what we practitioners know, gain confidence in the source and outcomes, and affect themselves, their families, and communities as living well. The goal of wholeness or health of human beings must recognize that they are in continuous interaction with their environments (Fawcett, 2005).

Implications for the Doctor of Nursing Practice Role

The preparation for Doctors of Nursing Practice is an important step in linking evidence to practice change. In this project, the limitations of time allowed only 100 charts to be reviewed. Nevertheless, the in-group experience for women sees that the group model is a holistic opportunity to assess the prenatal patient in a safe and educational environment. How the group appointment can be ‘branded’ as the best practice will take professional support,

political recognition as a remarkable, fully funded opportunity to access care, The CP model of prenatal care validates group appointments as a model of change with success in self-management, improved pregnancy knowledge and reduced risk associated with race and previous pregnancy outcomes.

Discussion and Conclusion

To identify a method by which comparison of pregnancy trajectory and birth outcomes, in-group versus traditional appointments need to be explored. Group prenatal care based on the CenteringPregnancy model is an innovative model of care, and data is available for review. The data of the randomized control trial (RCT) by Ickovics in 2007 and the cohort study by Ickovics in 2003 support the protective effect of group prenatal care against preterm delivery for women at increased risk of adverse outcomes. More and extensive study will be needed to define the optimal population for group care. The more data and understanding of what improves prenatal knowledge, satisfaction and access to care will improve the pregnant woman and infant outcomes. Patient-centered group care as modeled with the CenteringPregnancy (CP) model remains dedicated to assuring culturally sensitive and appropriate care to the specific group needs. The CP-trained group facilitators have a consistent curriculum and patient-focused theme, well adapted to many settings. Additional applications of this group model can extend the pregnancy model to parenting, Well Child checks, pediatric obesity, and chronic disease. Local community outreach programs familiar with the cultural expectations of the minority groups can apply the CP model of group facilitation for provider education programs to raise the cultural awareness and sensitivities of providers may be needed to eliminate racial and ethnic disparities. The statistically significant findings of macrosomia have been presented to the

county health center Group Appointments Chair with recommendations to consider a look at food diaries and exercise during pregnancy as another contributing factor to macrosomia. The incidence of diabetes, maternal weight gain was not macrosomia contributing factors in the 100 charts I reviewed. Future discussion with other CP group appointment researchers will guide further recommendations for research.

Ultimately, the group prenatal appointment model based on the CenteringPregnancy model is an effective way to address racial and ethnic disparities and is in alignment with Healthy People 2010 by increasing pregnancy knowledge and rates of breastfeeding in the country (USDHHS, 2000). Rising wrote, of the CenteringPregnancy prenatal care model, "it holds the potential for a revolutionary redesign of prenatal health care delivery" (2004).

Susan Hagedorn developed a *Theory of Primary Caring* that includes five domains: connection, consistency, commitment, community, and change (Table 1) (Hagedom, 1995) Connection describes how the Doctoral in Nursing Practice/Nurse Practitioner (DNP/NP)'s effectiveness is based on relationship-centered caring with the patient, the family, and the community. The overarching methods associated with group appointments based on CenteringPregnancy, match this model as an ideal method of DNP/NP practice and as a mode of care. The DNP/NP's practice is based on engagement with all three of these groups, the patient, the family, and the community. Through authentic listening, the DNP/NP serves patients with respect and compassion. Consistency describes the importance of evidence- and theory-based care in DNP/NP practice. Consistency is providing clinically competent healthcare that assures patients' positive health outcomes. This is an essential of Doctoral Nurse Practice (DNP) preparation. Consistency, too, refers to the importance of consistent care and care providers, and a healthcare home. Commitment describes how the DNP/NP is committed to serve each patient

and family to her or his best ability. The buy in by group appointments, additionally gives the patient the commitment of the other patients' interaction, a notion modeled by the DNP/NP. The DNP/NP is committed to providing ethical care within a context of confidentiality, compassion, and respect. Community illustrates the role of the DNP/NP in facilitating full access to healthcare for all persons and strives to meet unmet community health needs. As a nurse, the DNP/NP manages patients' care as a knowledgeable advocate and network participant that connects the patient to the services she or he needs to achieve optimal health. The DNP/NP, by nature of their role, relies on a network of content experts, community resources and other links from the professional community. The DNP/NP must be culturally competent -- able to listen openly and sensitively to the patients' cultural stories and empathize with the cultural influences of the patient's experience of health and disease. This promotes education, literacy appropriate materials, and self-determination of the patient, reducing risks and improving outcomes. Lastly, change explains how DNP/NP s introduces innovative models of healthcare and share decision-making with patients. This is the essence of DNP/NP preparation. To assess the system, integrate innovation as a change agent, and strive for continuous quality improvement are the credo to best practices promoted by the DNP/NP. The DNP/NP assesses patients analytically and facilitates patients' self-care. She or he ***must*** (author's emphasis) be involved in social change in order to support patient and community health initiatives. The DNP/NP also functions as a member of a healthcare team that includes not only health professionals but also auxiliary specialists.

Table 1. Attributes of NP Caring based on Hagedorn theory.

Connection	***Consistency***	***Commitment***	***Community***	***Change***

Relationship-centered practice	Evidence-based practice	Compassion	Cultural Competency	Health promotion and disease prevention
Engagement with patient(s) and communities	Consistent provider and healthcare home	Respect	Community resources	Critical thinking
Authentic listening	Highly competent practice	Maintaining confidentiality	Case Management	Community advocacy for health

Watson, in her 2005 work on the concepts of *caritas*, defined the work of nursing as, "the practice of loving-kindness...being authentically present...developing and sustaining a helping-trusting...relationship [with patients]...being...supportive of the expression of positive and negative feelings...creative use of self...attempting to stay within other's frame of reference...creating healing environments...assisting with basic needs...soul care for self and the one-being-cared-for." (Watson, 2005)

The 10 caritas are:

(word "caritas" comes from the Greek word meaning to cherish, appreciate, and give special attention)

The clinical caritas are integrative expanded perspectives that guide the nurse practitioner to consider the human condition of each patient encountered

1. Practice loving-kindness and equanimity.
2. Be authentically present; enable and sustain the deep, internal, and spiritual belief system of oneself and the person being-cared for.
3. Cultivate one's own spiritual practice and transpersonal self, going beyond "ego self."
4. Develop and sustain a helping-trusting, caring relationship.
5. Be present to and supportive of the expression of both positive and negative feelings as a connection with the deeper spirit of self and the person being cared for.
6. Creatively use oneself and all ways of knowing as part of the caring process; engage in artistry of caring-healing practices.
7. Participate in genuine teaching-learning experiences that attend to unity of being and meaning attempting... to stay within other's frame of reference.
8. Create a healing environment at all levels (physical as well as nonphysical), subtle environment of energy and consciousness, whereby wholeness, beauty, comfort, dignity, and peace are potentates.
9. Assist with basic needs, with an intentional caring consciousness; administer 'human care essentials,' which potentiate alignment of mind/body/spirit, wholeness, and unity of being in all aspects of care; attend to both embodied spirit and evolving spiritual presence.
10. Open and attend to spiritual mysteries and existential dimensions of one's own life-death; soul care for self and one being cared for. (Watson, 2005)

DNP/NPs creatively use themselves therapeutically with individual patients, families, communities, and systems to assist patients by being authentically present and developing

helping-trusting relationships. (Brown, 2005) The natural, holistic utilization of patient centered group appointments promotes such an empowered model for care.(Hagedorn, 1995) Reiterating the first DNP/NP essential: *Recognizes the philosophical and scientific underpinnings essential for the complexity of nursing practice at the doctoral level*, and the example of:

A basic tenet of transformative power: People must obtain this for themselves. It cannot be given to them. No one can empower another person, because the achievement of power that effects transformation can only come from self-action. Self-action is the first step in modifying health disparities and group appointments offer a means to that end.

Figure 2. Transformation for Health Framework.

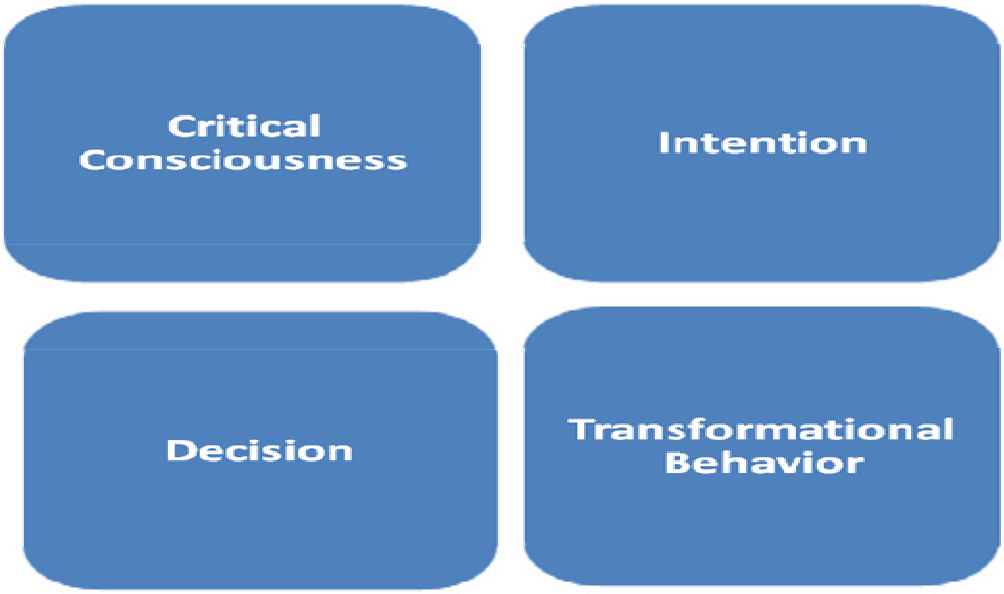


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Table 1: Descriptive Variables in Spanish-Speaking Prenatal Women in Traditional or CenteringPregnancy Group Care

Heading	Heading
Total number of prenatal visits	Group number Traditional number
Weight	Maternal weight gain *Birth weight of infant Total weight gain for pregnancy
Evidence of breastfeeding	At birth At postpartum or reunion postpartum visit
Total number of prenatal visits/group sessions	CP number Traditional number
Weeks of gestation at delivery	
Evidence of	Preeclampsia
Diagnosis of	Gestational diabetes Intrauterine growth retardation (IUGR)
Mode of delivery	Vaginal C-Section
Mother characteristics	Smoker – yes/no Previous deliveries

*Birth weight is greater for infants of women in-group versus individual prenatal care. Infants of group patients less likely than those of individual care patients to be low birth weight (less than 2500g).

Table 2: Value of Kinship Networks (Group Appointments)

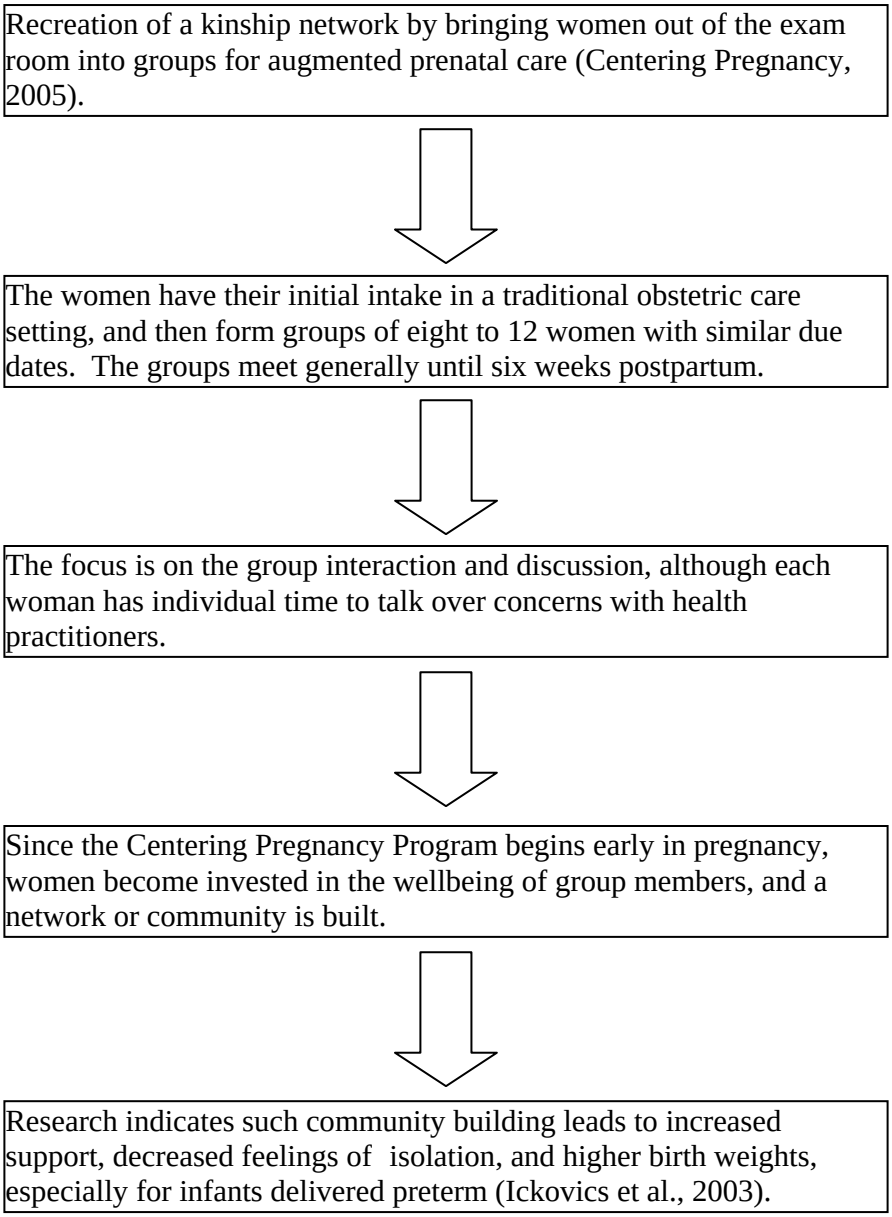

Table 3: Chart Review

Data Analysis

What will be measured?	Goal: To reduce [what] by [number, %] within [timeframe].
1. Breast Feeding Retention Rate Definition: Percentage of patients in-group vs. individual prenatal care who have documentation of ongoing breast-feeding at the four- to six- week postpartum visit.	Goal: To compare the percentage of patients who continue to breastfeed after Discharge from the hospital between the group prenatal patients and the patients receiving individual prenatal care. One could also measure further out than the four- to six-week time period. Well Child forms ask about breast-feeding up until the age of 12 months, although it is unclear how often it is assessed or documented by providers after six months.
2. Birth Weight Definition: Average of documented weight at birth as listed in the delivery record for infants born to patients attending each group (group appt patients and traditional prenatal patients).	Goal: To look at the rate of ELBW infants in each group or the percentage of prematurity in each group as defined by Gestational Age < 2500 g. An average of Birth Weight at delivery for each group. An average and range will be culled from chart data for comparison to see if this pilot project finds any differences.
3.Gestational Age at Delivery Average gestational age at birth	Goal: Preterm is GA less than 37 weeks, low birth weight is BW less than 2,500 g, and small for

documented on the newborn H & P between each group, class vs. traditional.	gestational age (SGA) is BW less than the 10th percentile weight for the infant's GA. An average and range will be culled from chart data for comparison to see if this pilot project finds any differences
4. Weight Gain for Pregnancy Average weight gain by the date of delivery documented in the OB H & P for each group.	Current guidelines recommend that average-sized women gain between 25 and 35 pounds during pregnancy. If a woman is already overweight when she becomes pregnant, most practitioners suggest that she gain between 15 and 20 pounds. An average and range will be culled from chart data for comparison to see if this pilot project finds any differences (ACOG, 2009).