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Centering Healthcare Institute

April 4, 2011

We know that about half of the achievement gap between rich and poor kids exists long before a child ever enters an elementary school classroom. Experts from a range of disciplines have examined children's differential experiences in the home during those formative years of brain development to figure out why this is so. The environmental impacts of being raised in an impoverished home environment are now well recognized. Less widely understood are differences between advantaged and disadvantaged infants that manifest *before the babies ever leave the hospital*.

Most significantly, we know that low income and minority mothers are much more likely than higher income and white mothers to give birth prematurely. Findings demonstrate large disparities in preterm birth outcomes among women who are lower income or less well educated than the general populace.¹ Disparities are also clear along racial lines: A black mother is twice as likely as a white mother to give birth prematurely.² Preterm birth, defined as birth before 37 weeks of gestation, affects a full 19% of low income minority populations, and has enormous implications for children and their families that can last a lifetime.

But unlike the complex, intractable differences in home environment that hinder underprivileged children from reaching their potential in life, preterm birth is something we can, in part, prevent.

Preterm birth:

Preterm birth is the number one killer of infants in the first year of life and was responsible for more than one-third of the 27,970 infant deaths in the U.S. in 2002.³ Medical advances have enabled doctors to save the lives of many premature infants. Today, even babies born at 24 weeks gestation have a 40% chance of survival, and by 27 weeks their chance of survival is at about 90%.⁴ However, even for infants born only moderately prematurely, the short and long term physical, emotional, educational and economic costs of those days or weeks in the NICU for the babies, their families, and society are significant.

NICU babies experience prolonged separation from their mothers. The average neonate is subjected to 14 procedures per day, with 77% of common procedures considered painful at a level of 4 or more on a 10 point scale.⁵ This separation is also hard on mothers, whose experience of stress, depression, and disconnection tends to affect the child's later development.⁶

¹ Kramer, M. Investigating socio-economic disparities in preterm birth: evidence for selective study participation and selection bias. *Pediatric and Perinatal Epidemiology*, 23, 301–309. © 2009.

² *Ethnicity & Disease*, Volume 16, Autumn 2006.

³ Callaghan, W. et. al. The Contribution of Preterm Birth to Infant Mortality Rates in the United States. *PEDIATRICS* Vol. 118 No. 4 October 2006.

⁴ March of Dimes, Quint Boenker, Premie Survival Foundation.

⁵ Do we still hurt newborn babies? A prospective study of procedural pain and analgesia in neonates. Simons et al. American Medical Association, 2003.

⁶ *Journal of the American Medical Association*. Anand et. al. 2002.

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Once the baby has left the NICU, the repercussions of a preterm birth often last a lifetime. Health challenges associated with prematurity include cerebral palsy, eye complications and blindness, respiratory conditions, hearing loss, and learning disabilities. There is a continuous relationship between decreasing gestational age and adverse health outcomes, without a clear threshold; 46% of very premature infants have moderate to severe disabilities.⁷

An analysis of 20 years of research confirms that children born prematurely have, on average, lower cognitive scores, with lower-than-average learning ability, and more behavioral problems after the age of five than children born full-term.⁸ Studies of long-term social and educational impacts that control for socioeconomic differences find that a lower gestational age at birth is associated with a reduced likelihood of completing high school, receiving a BA, or establishing a family, and a higher likelihood of having a low income and receiving social benefits.⁹ A study in Scotland showed that preterm children in that country were almost twice as likely as full term children to require special education, and that birth even one week early increases a child's risk of having special needs.¹⁰

Causes: The causes of preterm birth are poorly understood, and no existing screening test accurately identifies women who will deliver prematurely. *In fact, about half of preterm births occur in women with no known risk factors.* However, factors that are statistically associated with preterm birth include anxiety, chronic stress, unwanted pregnancy, catastrophic events in early pregnancy, and multiples (e.g. twins).¹¹

Costs: Much clearer than the causes of preterm birth are the costs. In 2005, preterm birth cost the United States an estimated \$26.2 billion, or \$51,600 for every infant born prematurely (*this cost estimate is considered a floor, as it does not include the cost of medical care and special education beyond early childhood for any but the four major disabling conditions*). The cost estimate breaks down as follows:¹²

- \$16.9 billion (65%) for medical care¹³
- \$1.9 billion (7%) for maternal delivery
- \$611 million (2%) for early intervention services
- \$1.1 billion (4%) for special education services
- \$5.7 billion (22%) for lost household and labor market productivity

Meanwhile, 37% of all U.S. births are financed by Medicaid, with an outsized proportion of preterm births experienced by low income populations, and therefore paid for with public dollars.

⁷ Long-Term Medical and Social Consequences of Preterm Birth. Dag Moster, M.D., Ph.D., Rolv Terje Lie, Ph.D. and Trond Markestad, M.D., Ph.D. *N Engl J Med* 2008; 359:262-273 [July 17, 2008](#).

⁸ *Journal of the American Medical Association*. Anand et. al. 2002.

⁹ *Ibid*.

¹⁰ Gestational Age at Delivery and Special Educational Need: Retrospective Cohort Study of 407,503 Schoolchildren. Daniel F. MacKay et. al.

¹¹ Preterm birth: causes, consequences, and prevention. 2007. Institute of Medicine of the National Academies. Behrman and Stith Butler, editors.

¹² Preterm birth: causes, consequences, and prevention. 2007. Institute of Medicine of the National Academies. Behrman and Stith Butler, editors.

¹³ For example, >2/3 of extremely premature infants and >1/3 of very premature infants have respiratory distress syndrome and receive costly mechanical ventilation in initial hospitalization (compared to <1% full term).

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Centering Pregnancy and the Centering Healthcare Institute (CHI)

In 1993, after 27 years as a Yale-trained nurse-midwife, Sharon Rising reached a breaking point in her obstetrical practice. Her pregnant patients were waiting for more than an hour in crowded rooms, and Rising was rushing them through their exams in order to quickly move on to her other patients. She was giving the same speeches to patients over and over again, but rarely had enough time to answer their questions, despite the fact that the women were generally stressed about their pregnancies and isolated from the family support and guidance that had been extended to expectant mothers of previous generations.

Guided by a hypothesis that meeting in groups could allow pregnant women more time to fully discuss the medical and emotional aspects of pregnancy and parenting, Rising convinced a Connecticut clinic to allow her an experiment: *To see a group of ten pregnant women for two hours, rather than having each woman meet alone with her clinician for ten minutes.* Rising went on to develop an innovation in obstetrical care she called “Centering,” which brought women of a similar gestational phase together for multiple two-hour sessions over the course of their pregnancies. Rising provided prenatal care and involved women in self-care, largely through a facilitated open discussion about issues of importance to the women. She did away with exam rooms, holding sessions in a circle and turning over responsibility for keeping track of weight and blood pressure to the women themselves, arguing that direct involvement in their care leads them to take more responsibility for their health.¹⁴

At the end of her first experiment in group prenatal care, patients and health providers reported improved satisfaction and outcomes - for the same price as the traditional model.

To Rising, this was not surprising: “They're under tremendous stress. Nervous about the pregnancy, concerned about their jobs, worried about money, questioning their partners' commitment. What happens in a group is powerful. You find that everyone feels the same way, and the women become invested in each other and in the success of every other woman in the group.”¹⁵

Rising continued to iterate this new approach to care, running groups with populations ranging from low income Spanish-speaking mothers, to teen mothers, to higher income women in private practice. She identified core elements of the model that were consistent across all settings. Over time, these became the

Centering Basics

Who? Any pregnant woman (but improved healthcare outcomes have been powerfully demonstrated only for lower income & minority women).

What? Prenatal healthcare delivered to women in groups of eight to twelve. Sessions are facilitated, rather than taught, by a doctor or midwife, in a circle, and are designed to create a climate of support and confidence among women in about the same gestational phase.

Impact? Proven significant reduction of preterm birth rates, low birth weight babies & rapid repeat pregnancies; Proven increase in breastfeeding and patient satisfaction.

Cost? Prenatal Centering visits are fully reimbursable by public and private insurers (only the costs of training and materials are not covered).

¹⁴ Drawn from Purpose Prize organizational history.

¹⁵ Ibid.

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13 “Essential Elements” of Centering (*listed below*). Rising’s Centering patients received about 20 hours of care and mutual support over the course of their pregnancies, in contrast to a total of two hours with standard care. The model replaced, rather than supplemented, traditional care, and was fully reimbursable.

As interest in the model she had developed grew among other midwives (and the occasional obstetrician), Rising began to offer periodic trainings on Centering. Then in 2001, in response to growing interest, she founded the nonprofit Centering Healthcare Institute (CHI), which today provides training and consultation to U.S. medical clinics and hospital that want to implement Centering.

Centering Results

Since then, the results of CenteringPregnancy have been investigated by multiple large-scale studies, with the following results:

Rates of Preterm and Low Birth Weight Birth:

- A 2007 Yale University gold standard multi-site randomized control clinical trial of 1,000 women found that **CenteringPregnancy reduced preterm birth by 33% overall and by 40% for African American women**, who experience the highest rate of preterm birth in the nation.¹⁶
- A study of 229 matched pairs found that among preterm births in the cohort, Centering pregnancies lasted two weeks longer and Centering babies were one pound heavier than babies birthed by mothers who received traditional care.¹⁷ (This finding is meaningful given that children born with low birth weight are at increased risk for chronic conditions in adulthood such as high blood pressure, heart disease, and diabetes).
- A 2008 study of birth outcomes in 14 clinics in Texas, where the preterm birth rate is high relative to other states, found a 50% reduction of preterm birth for Centering women relative to a comparison group (*not a clinical trial*).¹⁸

These findings suggest that for roughly every two CenteringPregnancy groups held, a preterm birth is avoided. With that one negative outcome averted, the costs of training and consulting in the Centering model would be more than made up for.

Essential Elements that Define Centering

- 1. Health assessment occurs within the group space*
- 2. Women are involved in self-care activities*
- 3. A facilitative leadership style is used*
- 4. Each session has an overall plan*
- 5. Attention is given to the care content; emphasis may vary*
- 6. There is stability of group leadership*
- 7. Group conduct honors the contribution of each member*
- 8. The group is conducted in a circle*
- 9. Group size is optimal to promote the process*
- 10. The composition of the group is stable, but not rigid*
- 11. Involvement of family support people is optional*
- 12. Opportunity for socialization within the group is provided*
- 13. There is on-going evaluation of outcomes*

¹⁶ Ickovics et. al. Group Prenatal Care and Perinatal Outcomes; A Randomized Controlled Trial. *Obstetrics & Gynecology*, 2007.

¹⁷ Ickovics, J. et. al. Group Prenatal Care and Preterm Birth Weight: Results From a Matched Cohort Study at Public Clinics. *American College of Obstetricians and Gynecologists*.OL. 102, NO. 5, PART 1, NOVEMBER 2003

¹⁸ Northam, S. University of Texas at Tyler, 2009.

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Other Proven Benefits of Centering:

Mothers:

- 50% less likely to have rapid repeat pregnancies (within six months);^{19,20}
- More likely to initiate breastfeeding;²¹
- Have significantly better prenatal knowledge.²²

Clinics:

- Increased patient satisfaction (*in general, CHI surveys indicate that 96% of women who experience Centering care for pregnancy prefer it to 1:1 care. The largest clinical trial confirmed this preference*).^{23 24}

Cost implications:

- The Yale gold standard study described above demonstrated that **Centering showed the results described at no additional cost to the healthcare system beyond the costs of training and consulting for providers, and that care delivered through Centering was otherwise fully reimbursable.**²⁵
- Administrators in a Kentucky county where 80% of the population is on Medicaid found that 37 women avoided preterm births as a result of that county's relatively small Centering practice (410 women in care), saving local government an estimated \$1.5m in medical bills (*not a clinical trial*).

*(Important caveat: The clinical trials and other studies cited above were conducted entirely in clinics and hospitals that serve predominantly low income minority populations that are at relatively high risk of preterm birth. A clinical trial conducted with an economically and racially diverse military population showed statistically significant improvements in patient satisfaction with Centering and an increase in the number of prenatal visits, but no change in preterm birth rates).*²⁶

Ongoing Research:

An additional randomized control trial on CenteringPregnancy was recently completed out of John's Hopkins with a largely Hispanic population. Although the findings have not yet been published, we know results are similar to those seen with African American women. A second, larger RCT is nearing

¹⁹ This finding relates specifically to Centering groups with an explicitly focus on reproductive health issues. Groups without this focus may or may not see similar results.

²⁰ Kershaw et al., American Journal of Public Health, 2009.

²¹ Ickovics et. al, Group Prenatal Care and Perinatal Outcomes; A Randomized Controlled Trial. Obstetrics & Gynecology, 2007. Kershaw et al., American Journal of Public Health, 2009.

²² Ickovics et. al, Group Prenatal Care and Perinatal Outcomes; A Randomized Controlled Trial. Obstetrics & Gynecology, 2007.

²³ Rising, Sharon. Journal of Nurse Midwifery, 1998.

²⁴ Ickovics et. al, Group Prenatal Care and Perinatal Outcomes; A Randomized Controlled Trial. Obstetrics & Gynecology, 2007.

²⁵ Ickovics et. al, Group Prenatal Care and Perinatal Outcomes; A Randomized Controlled Trial. Obstetrics & Gynecology, 2007.

²⁶ Kennedy et. al. "I wasn't alone" – a study of group prenatal care in the military. American College of Nurse-Midwives. Volume 54, No. 3, May/June 2009.

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completion in NYC with 13 health centers. A third RCT is nearing completion on **CenteringParenting**, a natural outgrowth of CenteringPregnancy, which offers combined obstetric and pediatric care in the context of a facilitated group for at least the first year of a child's life.²⁷ This RCT, also out of Yale, shows better immunization and attendance rates with CenteringParenting. Other early evaluation of CenteringParenting data suggests the practice yields a significant reduction in body mass index (BMI) for participating mothers.²⁸ This finding, if confirmed by a more robust study, would be meaningful because high BMI is closely associated with long-term medical conditions such as heart disease and diabetes for the mothers.

The in-process randomized trial on CenteringParenting is looking at a range of maternal health outcomes, such as decreased smoking and exercise, as well as health outcomes for babies (e.g. on-time immunizations and decreased emergency service use), families (e.g. decreased stress and maternal depression) and parenting knowledge and skills. CenteringParenting is also likely to appeal to healthcare administrators, given that physicians can bill separately for medical visits from both the mothers and the infants who attend a group session. Physicians implementing CenteringParenting are reporting as many as 14 billable encounters per two hour session (as compared to a general productivity requirement of eight to ten billable encounters for two hours), increasing the likelihood that the approach will be cost-effective for sites.

Current Scale of CenteringPregnancy

Since Sharon Rising's early days leading ad-hoc trainings in Centering, more than 300 sites in 48 states have implemented some version of the model. In its early years, CHI's relationship to sites was minimal; the organization delivered provider training to sites via roughly 30 part-time workshop leaders (typically midwives) scattered across the country, and sold sites the materials they needed to implement the program. Then in 2007, CHI took stock of its sites and found sustainability of the model and consistency of implementation to be uneven. CHI could not assure patient outcomes in sites where the practice did not conform to Centering quality essentials. CHI also gained new insights into requirements for success. In particular, Rising and her team learned that programs launched "under the radar screen" rarely had staying power. Building an effective, sustainable Centering program required almost everyone in a site – from CEOs and doctors to receptionists and phlebotomists – to change the way they did business. Sites required tools and guidance to establish a representative steering committee, create an appropriate group space, consistently recruit groups of ten to twelve women, and craft plans for scheduling, scaling, and evaluating the program.

In response to these insights, CHI built a more intensive – and prescriptive – consulting practice for sites that wished to be formally approved by CHI. Then in 2009, with a professional, process-oriented COO on board for the first time, CHI developed a formal Model Implementation Plan (MIP) for new sites. A MIP is a two-year package of high-touch, on-site consulting and training delivered by CHI contract staff that begins with an overview of the model for all clinic staff and an intensive half-day session with a Steering

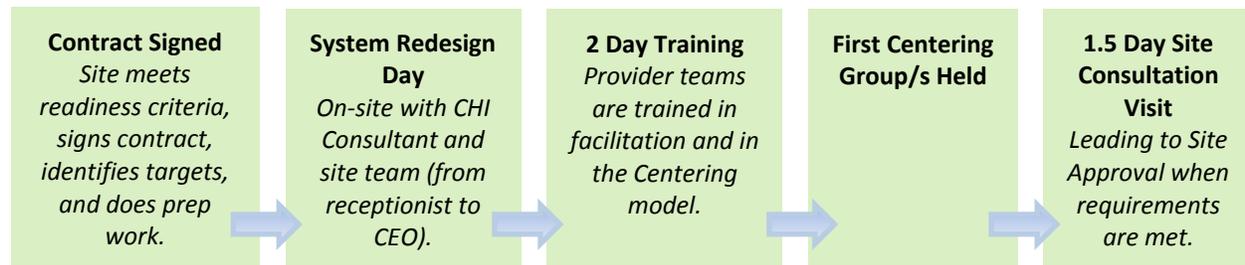
²⁷ Graduates of CenteringPregnancy often want to continue meeting with group care at the end of their pregnancies. However, the model is more complex to administer outside of family medicine and is being piloted by only a handful of sites nationally.

²⁸ West Berkeley Family Practice, Lifelong Medical Care.

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Committee responsible for implementing a system redesign plan, and culminates in an on-site assessment and opportunity for site approval.

The basic flow of a two-year MIP contract, which costs a site between \$35k-48k for two years, looks like this:



CHI's ability to execute this higher touch model has been severely impeded by its current organizational infrastructure – five FTEs, including a receptionist, based in a remote outpost in Cheshire, CT. Today, of the approximately 300 sites that purchased materials from CHI in 2010, only 70 are approved, and fewer than 30 have signed Model Implementation Plan (MIP) contracts. Going forward, CHI's strategic plan moves headquarters out of Cheshire to Boston and is based on fully transitioning to this higher-touch, high-quality approach that will require ALL sites to become approved or be dropped as Centering sites. This commitment to quality will require CHI to consciously drop an estimated 110 sites that will not have the wherewithal or capacity to develop robust Centering practices or to pursue site approval. CHI expects to complete this transition by mid-2013, by which time an anticipated 90 legacy sites will have achieved site approval, while the remainder will no longer be permitted to purchase materials or trainings from CHI.

Why focus on Quality? A 2010 site survey suggests that sites that have gone through an approval process or a MIP serve a larger total OB population, enroll a larger percentage of their total OB practice in Centering, and are more positive about the program than unapproved sites.²⁹ Thus approved sites are more likely to become high-volume Centering sites where many providers and administrators are involved in delivering the model and Centering is on track to become standard practice as opposed to a sideline pilot. This data and other feedback suggest that CHI is headed in the right direction with its consulting model, and that future growth should be limited to sites that are willing to commit time and resource to the process. CHI's strategic plan allows legacy sites that are demonstrating their commitment to Centering, but that struggle to pay for the cost of site approval and provider training, to apply for outside funding from local foundations or directly from CHI, which will create a small pot of funds for this purpose.

Potential Scale of CenteringPregnancy

Early adoption of Centering came primarily from midwives, who attend a mere seven to ten percent of U.S. births.³⁰ But today, the Centering model is increasingly being recognized in mainstream obstetrical

²⁹ Analysis from Case Strategies, 2011.

³⁰ Dana Eltringham, Carmen Gore. Nurse midwives as primary caregivers.

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circles (the chairman of the CHI Board is an obstetrician and the former head of ACOG, the American College of Obstetricians and Gynecologists). In Boston alone, Brigham & Women's, Boston Medical Center, Codman Health Care Center, and Harvard Vanguard among others have contracts with CHI and are developing Centering practices.

There is much to suggest that CHI has an unprecedented opportunity to take Centering to scale.

Shortage of primary care physicians: Across the country, people are waiting longer for medical appointments. The number of primary care physicians is declining (in 1960, half of U.S. doctors practiced primary healthcare, versus 30% today), at the same time that demand for care from the newly insured is increasing.³¹ In Boston, the average wait time to see a doctor is 50 days.³² Frustrated patients, providers, and managers are increasingly open to considering group care, which involves little to no wait, and more time with a doctor. Even private practices such as Harvard Vanguard, and nationally renowned practices such as the Mayo Clinic system, are embracing group models of care.

Importance of regular primary care relationship: Recent research has demonstrated that patients with a regular primary care physician experience significantly better health outcomes than patients who are seen by a changing cast of characters. The authors of one such study state: *"Our analyses show lack of having a regular doctor, which is more common among community health center patients, has a greater impact on poor quality in community health center settings than all of the patient socio-demographic characteristics known to be associated with poor health outcomes."*³³ Centering provides an efficient way for more patients – and in particular patients at community health centers where the primary care shortage is most acute – to develop a consistent relationship with a single primary care provider.

Recent accolades/ opportunities: In addition, national attention for the Centering model is increasing, and is increasingly mainstream. Widespread recognition of the model beyond midwifery circles began with the publication of the randomized control studies in 2007. In 2008, Centering was recognized as an innovative program by the federal Agency for Healthcare Research and Quality. Then in 2010, CenteringPregnancy was the sole winner of the prestigious Premier Cares Award from Premiere Inc., a consortium of more than 70,000 healthcare sites.

This year, CHI is launching its first large system pilot with Amerigroup, a national health insurance company that focuses on publicly-funded healthcare programs, including Medicaid (*Amerigroup covers more than 62,000 U.S. births annually, representing roughly one fifth of all prenatal Medicaid/ very low income patients*). Amerigroup has contracted with CHI to implement Centering in sites in three states initially, and is investing heavily in data analytics to evaluate the effort. If the pilot is successful, Amerigroup will consider rolling out Centering in its sites across eleven states and will publish on the learnings in managed care journals and other publications. Given the high concentration of low-income families insured by Amerigroup, and the strong outcomes of Centering among this demographic, this is an ideal pilot for CHI.

CHI is also in early conversation with the prestigious health care system Kaiser Permanente in two states

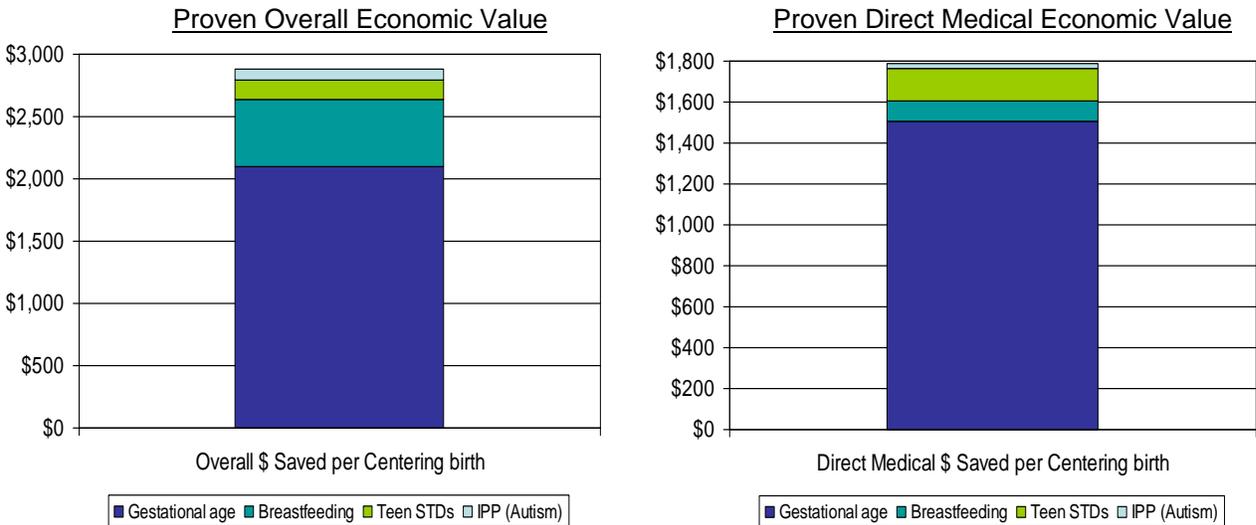
³¹ Kaiseredu.org

³² Merrit Hawkins, 2009 (*healthcare consulting firm that surveyed 1,150 medical offices in 15 cities*).

³³ Beal, Anne. Hernandez, Susan. Journal of Health Care for the Poor and Underserved. May 2010.

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about a plan to pilot and perhaps rapidly scale up CenteringPregnancy in multiple locations. In addition, and quite apart from and unbeknownst to CHI, Medicaid and Medicaid managed care administrators in Indiana, North Carolina, and Virginia have elected to provide higher reimbursement rates to clinics that deliver prenatal care through Centering. In order to equip CHI to drive more such enhanced reimbursement going forward, SGP has supported CHI to calculate and communicate the value proposition of CenteringPregnancy to society and to payers. The following charts reflect this effort:



Sustainable financial model: Since piloting the Model Implementation Plan in 2009, CHI has been able to charge a profitable rate for its high-touch consulting, as well as for its training, and materials – and still reach the clinics and hospitals that serve low income, high-risk mothers and babies. In 2010, CHI generated \$1.6m in earned revenue. These fees covered 100% of CHI’s shoestring budget in 2010, and generated a surplus. In the near-term, as CHI invests in the staff, systems, and advocacy that will create a platform for future growth and consistent quality, an input of philanthropic growth capital will be required. However, earned revenue will remain CHI’s critical revenue driver.

CHI also benefits from a flexible staffing structure. Consulting at sites is done by very part-time independent contractors who are passionate about Centering and who consult to CHI as a sideline to their own practices. Most of the contract staff have additional capacity and would very much like to increase the amount of work they do for CHI.

And yet, it must be noted that the financial case for Centering is not as straightforward as the charts above would seem to suggest. This is because the entities that must pay for CHI’s services and materials (clinics and hospitals) are not the same entities that accrue savings from a Centering practice. Payers, patients, and tax payers receive proven economic value from Centering. But while clinics and hospitals benefit in a general way from higher patient and provider satisfaction rates, unless they run highly efficient Centering practices, they may not recoup their investment in training and consulting through CHI. Many sites are dependent upon grants from the March of Dimes and other local philanthropies to launch their Centering practices.

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CHI hypothesizes that enhanced reimbursement for Centering among payers will be the key to dramatically increasing the willingness of clinics and hospitals to adopt the model and transition to Centering as their standard of care. As noted above, some State Medicaid offices and for-profit companies that manage Medicaid are already beginning to demonstrate their willingness to reimburse clinics and hospitals with Centering at a higher rate. If higher reimbursement for Centering becomes more widespread, CHI expects enormous growth in demand for the model, and its strategic plan calls for investment in a lobbyist and a D.C. presence to accelerate this process.

Large-scale replication is doable: We spoke with a researcher who specializes in evaluation of model fidelity. She and her team looked at CenteringPregnancy in an overwhelmed, highly disorganized clinic in a very poor Chicago neighborhood. The researcher reported that even in the context of this chaotic environment, implementation of the groups was fairly strong, with robust positive outcomes. The researcher attributed this to the fact that the power of this innovation is inherent in its structure, and does not hinge upon nuances of implementation. However, she noted that while individual groups ran fairly well in the Chicago clinic, the site as a whole would require significant coaching and support from CHI to sustain its Centering practice over time.³⁴

CHI's first strategic growth plan: Lastly, to date CHI has received the accolades and scale described above without the benefit of explicit strategies and financial planning for sales, data, communications, or advocacy. SGP began its strategic planning process with Centering in the summer of 2010, the first full year that CHI offered MIPs. We were intrigued by the outstanding results from clinical trials, and with the potential for Centering to deliver better outcomes with low-income families and ultimately affect healthcare system change. Through this planning process, CHI has developed organizational priorities for the future, of which site recruitment, selection and training are critical priorities. In contrast to CHI's historic scatter-shot approach to growth, which has resulted in Centering sites in virtually every U.S. state, as well as parts of Canada, the U.K., and Australia, going forward **CHI will prioritize growth in five metropolitan areas: Greater Boston, D.C./ Virginia, Houston/ Dallas, Chicago, and Greater San Francisco.**

CHI has created a modest scale plan that it can implement with its own resources. This plan allows CHI to make the move to Boston, hire four additional staff, including a low-level data analyst, invest in modest data collection capacity, and grow the number of approved and in-process sites from 123 in 2011 to 268 by 2014.

Centering in Massachusetts

CHI has 4 approved sites and 12 sites that are either unapproved or seeking approval in MA. Among these is the Codman Square Health Center in Dorchester, which is implementing both CenteringPregnancy and CenteringParenting, and developing innovations with both models in concert with CHI.

CHI new Boston HQ, which will open this month under the leadership of CHI's COO Colleen Senterfit as operations in Cheshire wind down, will position CHI in a hub of Centering activity and innovation, and will facilitate further development of Centering in Massachusetts.

³⁴ Personal communication. Kathleen Norr, May 20, 2010. Also Introduction of CenteringPregnancy in a Public Health Clinic. Carrie Klima CNM, PhD. Kathleen Norr, PhD. *The Journal of Midwifery & Women's Health*. Volume 54, Issue 1, pages 27-34, January-February 2009.

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CHI Scale Plan w/o Growth Capital

YEAR	2011	2012	2013	2014
Approved sites	90	136	184	212
Newly contracted sites	23	24	31	41
Mothers served/ yr	11,877	18,470	27,033	33,958
Revenue	\$1.6m	\$2.1m	\$2.6m	\$2.8m
Expenses	\$1.7m	\$2.0m	\$2.2m	\$2.4m

Importantly, the modest scale plan puts in place basic structures and processes to raise the bar on implementation. What the plan does not do, is build the kind of operational quality, scale and impact that Centering is ready to undertake. It also does not address important actions to facilitate system change that provide incentives for local sites to embrace and build Centering, such as unlocking State Medicaid dollars for Centering. **Consequently with SGP, CHI has also mapped out more ambitious plan that is contingent on outside funding.**

This stretch plan would not only lead to significant additional growth capacity (approved and in-process sites would grow from 123 to 327 by 2014), but would enable CHI to make deeper investments in the **quality** of its workforce at the supervisory level, develop a robust performance management system to assess and manage quality, and create an online tool for continuing education of sites. This organizational growth capacity would prepare CHI for further future growth. The stretch plan would also allow CHI to set up a small office in D.C., where Sharon Rising would be located. This primary pursue of this office would be to pursue the legislative and policy changes that could ultimately allow Centering to grow far beyond the scale described below. D.C. would also become the future hub for Centering research and innovation (e.g. advancing CenteringParenting and CenteringDiabetes.).

Scale Plan with Growth Capital

YEAR	2011	2012	2013	2014
Approved sites	90	162	208	244
Newly contracted sites	25	27	46	60
Mothers served/ yr	13,657	23,287	34,314	46,212
Revenue	\$1.5m	\$2.4m	\$3.2m	\$3.7m
Expenses	\$2.0m	\$3.2m	\$3.4m	\$3.7m
NEED FOR GROWTH CAPITAL	\$541k	\$823k	\$173k	0

See CHI Budget, also attached, for detailed growth plan financials.

Key Objectives of CHI 3-Yr Strategic Plan:

1. Improved Patient Outcomes

Relative to each site's patient outcomes at baseline, CHI expects to see the continuation of outcomes seen in the RCT's:

- Lower pre-term birth rates
- Lower incidence of low birth weight
- Higher incidence of breast feeding

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- Higher patient satisfaction
- Higher return rate for early post partum visit (*visit addresses post partum depression, breast feeding, and contraception*)

2. Successful, Sustainable Sites

Successful, sustainable sites achieve the scale plan as defined, demonstrate the five key patient outcomes listed above, have the 13 Essential Elements of Centering and an effective Steering Committee in place, and are on track to reach sustainability by Yr5. Sustainability is defined as >50% of a site's eligible population participating in Centering.

3. Large System Pilots

CHI reaches significant scale in two large, respected healthcare systems in sites where Centering is likely to have significant positive impact (*an Amerigroup pilot is already underway and negotiations with Kaiser are in-process*). The systems agree to track and disseminate results of Centering versus standard care through published papers/ newsletters.

4. Capacity to Measure Impact and Manage for Results

CHI develops the systems required to track results and sustainability of all sites, and to effectively, efficiently manage staff and site activities.

5. Enhanced Financial Incentives for Centering

Centering drives CMS dollars at the Federal and State levels to incentivize Centering.

6. R&D on CenteringParenting

CHI builds the knowledge base of the impacts of CenteringParenting, through clinical trials and data from sites that are already implementing the model.

7. Financial sustainability

CHI builds its Board, establishes its pricing structure for sustainable ongoing operations, and secures additional growth capital from national foundations.

How SGP Can Help:

SGP has already provided support to CHI for short-term research and planning capacity. (As part of the planning process we engaged an experienced consultant with expertise in the healthcare field). Although the randomized trials provide compelling evidence of Centering's outcomes, the consultant's work represents the first systematic effort to articulate Centering's outcomes in terms of potential savings for the decision-makers. Together with SGP and CHI, the consultant also created a financial model that reflects the complexity of CHI's business and has allowed CHI to plan, make reasonable projections, and test pricing assumptions. Over the past year, SGP has facilitated CHI's strategic planning process, and coached its leadership through growing pains. Given CHI's extremely lean staff capacity, SGP has played an unusually active role in the planning process, facilitating a session in D.C. with key stakeholders to garner feedback on the organization's emerging strategic direction, participating in a board retreat, and facilitating financial modeling sessions. **A key part of SGP's role going forward will**

Strategic Grant Partners & CHI Business Planning

be to help CHI hire in the business expertise that is so sorely needed to ensure that this level of output and support is no longer required of SGP.

We recommend a grant to CHI for \$1.17m over the next two years. Such a grant would cover 75% of CHI's estimated growth capital needs over the next three years (not including additional funding CHI plans to pursue to advance its research agenda with regard to CenteringParenting).

YEAR	2011	2012	2013	2014
Expenses				
Staff cost	\$.9m	\$1.5m	\$1.7m	\$1.9m
Contract staff cost	\$.4m	\$.7m	\$.7m	\$.9m
Materials & other expenses	\$.4m	\$.6m	\$.8m	\$.8m
Capital budget	\$.2m	\$.3m	\$.1m	0
Total	\$2.0m	\$3.2m	\$3.4m	\$3.7m
Revenue				
Earned Revenue	\$1.5m	\$2.4m	\$3.2m	\$3.7m
NEED FOR GROWTH CAPITAL	\$541k	\$823k	\$173k	0
REQUEST TO SGP	\$541k	630k	0	
Other philanthropy required	\$192k	\$193k	\$173k	

See footnote on financials below as well as detailed Growth Plan financials attached. ³⁵

CHI should be able to raise the remaining growth capital dollars, and it is important that they begin to build a base of additional supporters. CHI already has a working relationship with the March of Dimes, a national foundation that exists to help women have healthy, full-term babies. March of Dimes has chapters in every state, and has historically provided small grants to dozens of health care centers that want to start up Centering. Beyond this relationship, which CHI plans to strengthen and formalize, CHI has put almost no emphasis on acquiring grant dollars to fund its work. Given the current demand for Centering, which has developed with only minimal effort and resource dedicated to recruitment, we feel that the growth numbers reflected above are reasonable and that CHI has a good chance of reaching breakeven by 2014.

³⁵ *In the financials, growth in revenue, growth in contract staff costs, and growth in number of sites served do not track intuitively for a variety of reasons. These reasons include: 1) there are often significant time delays between when work is paid for and when it is delivered by contract staff 2) the mix of business shifts year by year and profit margins vary significantly depending on the service rendered and 3) open workshops represent more than 50% of revenue in 2011 and do not correspond directly to number of sites served. It is exactly these counterintuitive dynamics in the financials that necessitated a complex, 16-spreadsheet financial model built by a top-level consultant.*