PHILIPS

Mother & Child Care

Customer Story

The transformation to family-centered care

Woman-Mother-Child Center & Philips Healthcare break new ground in childbirth and neonatal care

Key improvements

- 70% improvement in Wee Care score based on Integrative Developmental Care framework[a, f]
- 98% of staff surveyed[b, f] feel that the mother and child have a good experience at the Woman-Mother-Child Center thanks to family-centered care
- About 80% of eligible families have experienced the Sacred Hour since it was implemented. 94% of families surveyed[c, f] perceived it as a positive experience
- Patient satisfaction increased from 58% to 77% in maternity and from 83% to 93% in NICU over 2 years[d, f] according to results from Net Promoter Score (NPS) survey

The Máxima Medical Center's groundbreaking Woman-Mother-Child Center offers comprehensive family-centered care (FCC) to parents and their newborn child, before, during, and after birth. Thanks to the collaboration between Philips and the Máxima Medical Center, it is one of the first European centers to deliver such people-focused childbirth and neonatal care.
Since opening, the Center has seen a significant improvement in patient and staff satisfaction and expects long-term developmental benefits from the personalized care environment.

The vision for family-centered care

Máxima Medical Center is the largest medical center for the Southeast Brabant region in the Netherlands and specializes in high-care obstetrics and neonatology. About 2600 babies a year are delivered in its Woman-Mother-Child Center. At the start of the family-centered care project, the Máxima vision was to provide:

- A specially designed environment that ensures privacy and well-being across the continuum of care from OB to NICU
- Single maternity rooms for monitoring and delivery, post-partum bonding (the Sacred Hour) for mother and baby, and required perinatal care
- Individual family NICU rooms that promote developmental care, family involvement, and breastfeeding

The original set-up for maternity care at Máxima was no different than any other in Europe. “In our old facility, we were organized around processes rather than patients. When it came time to invest in a new facility, we did extensive research to develop a vision that would meet our patients’ key desire of staying with their children and help us deliver better care. It all came down to delivering care that was completely focused around the patient and their family. Family-centered care was not a new concept, but building an entire facility to realize such a vision was revolutionary,” says Freek van Daal, General Manager, Woman-Mother-Child Center.

The hospital committed to developing a new Woman-Mother-Child Center that would be a flagship for the whole hospital and a reference center for family-centered care in OB and NICU across Europe. This was an ambitious vision. The Máxima NICU department had already adopted many principles of Neuroprotective Family-Centered Developmental Care and the experience of family-centered care was expanding globally. However, Máxima would be a pioneer in building these concepts into its OB and NICU departments from the ground up.

An increasing awareness of the role of the family in promoting the health and well-being of children and recognition of the importance of meeting their psychosocial and developmental needs have led to the development of family-centered care.[1] Creating an optimal design helps facilitate excellent healthcare for the infant and mother in a setting that supports the central role of the family and the needs of the staff.[2] What this means to Máxima is that care is brought to the mother and baby as needed rather than moving them to separate care areas. This requires organizing maternity and newborn care and the staff who deliver it very differently.

The challenges of family-centered care

The incidence of adverse maternal outcomes is increasing, even in a developed population,[3] and despite improvements in the survival of pre-term babies, rates of long-term neuro-impairment remain unacceptable.[4]

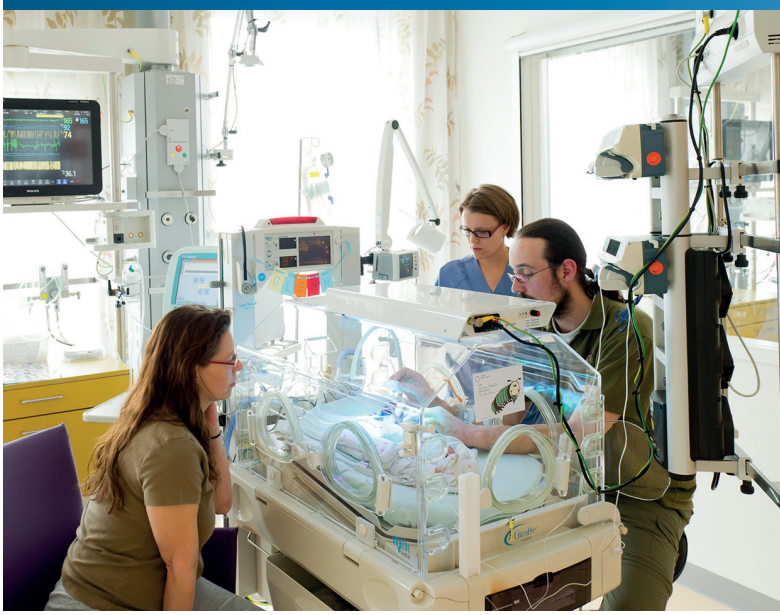
At the same time, healthcare has become a business, and we now must provide excellent quality care while being cost-effective in its delivery.

A growing body of evidence points to the importance of delivering safe and effective care in a manner that meets the physiological and developmental needs of each newborn and every family. Family-Centered and Neuroprotective Developmental Care have been shown to significantly improve infant medical outcomes, decrease the length of hospital stay and reduce the high hospitalization costs associated with complex neonatal care.[5, 6, 7]

There is evidence in the literature that single-room maternity and single-room NICU concepts are being adopted that facilitate Neuroprotective Family-Centered Developmental Care in hospital settings. Máxima Hospital states they are one of the first to provide single-room care for the mother and her acute infant. This has important implications for staff workflow, practices, and behaviors.[8] On the other hand, there are also significant gains, such as decreased length of stay and shortened interval to enteral feeding.[9] Philips Wee Care program provides expertise to help healthcare facilities overcome the challenges of realizing Neuroprotective Family-Centered Developmental Care.

"The whole concept of family-centered care really appeals to me. I have three children and I know how important it is to keep the family in the center of the whole process."

Dr. Pieter van Runnard Heimel, Gynecologist/ Perinatologist, Máxima Medical Center



Philips Wee Care expertise

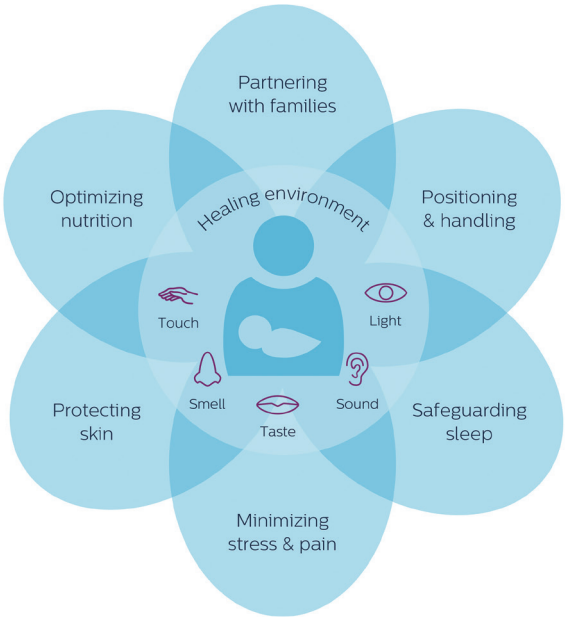
Philips became a strategic partner with Máxima during construction of the new facility – they found potential gaps and challenges and shared expertise and best practices to resolve them. The collaboration between Máxima and Philips was based on a shared commitment to evidence-based best practices in Neuroprotective Family-Centered Developmental Care. Philips Wee Care expertise, anchored on these principles, has been applied at over 80 sites across the globe.

We design 6 to 24-month clinical transformation programs aimed at implementing and standardizing developmentally supportive and family-centered care practices in the NICU and beyond. Their goal is to improve practices through comprehensive education, change management, and quality improvement in order to promote the enhanced care for newborns and their families.

The programs combine evidence-based best practices with core measures, supported by the Philips Neonatal Integrative Developmental Care Model. We customize the program's contents around the unit's specific situation, goals and improvement needs.

Neonatal Integrative Developmental Care Model – the Seven Core Measures[10]

- Healing environment
- Partnering with families
- Positioning and handling
- Safeguarding sleep
- Minimizing pain and stress
- Protecting skin
- Optimizing nutrition



Supporting the transformation

Steps in the process

Objective assessment of current practices before and after implementation to evaluate organizational readiness, provide baseline and measure progress	**Educational training** to support transition to developmentally supportive and family-centered care policies and practices across the units	**Staff surveys** to assess satisfaction, perceptions of developmental family-centered care, and measure progress of transition	**Change management support** to accelerate acceptance, integrate changes in care and in behavior, and prepare for successful maintenance of the program	**Innovative solutions** to improve workflow, processes and care

Objective assessment

Before the new facility opened in 2012, Philips Wee Care team audited the current NICU and maternity services to set a baseline for comparison and completed a 'deep-dive' into the staff experience. The NICU scored 122 on the Integrative Developmental Care benchmark tool from 80+ Global Wee Care sites, which was an average performance score. This assessment identified staff concerns about the move and the need for further communication and training in the new practices.

Transitioning to a new way of working

In 2012, the new Woman-Mother-Child center was opened; a warm, intimate, and supportive environment for mothers and their babies. The center brings together gynecology, obstetrics high-care, maternity, NICU, medium-care for newborns, and pediatric wards in the same hospital wing. Single patient maternity and NICU rooms replaced the large multi-patient wards for mothers and babies. Within one comfortable hospital room in maternity, the full range of care can be provided – prenatal, delivery, postnatal, breastfeeding support, and discharge.

If the mother experiences medical problems during the process, specialist clinicians can visit the mother's room instead of the mother being moved to a different department and separated from her baby. If NICU care is needed, premature babies can be kept with their mothers in private rooms during treatment and recovery.
Until now, mothers had typically remained on an obstetric ward while their babies were sent to a traditional NICU.

This was a big improvement for families, but it represented a major challenge for the medical staff who were used to working in separate departments.

Now a midwife, obstetrics nurse, pediatric nurse, gynecologist, and pediatrician had to work much more closely with each other in the same room.

"At first, we underestimated what a big change we were making. If you start working in a new building, with a brand new vision, that's asking a lot of medical staff. They have to find their way in a new set-up, and if there is an acute situation, people fall back into their old habits," says Van Daal.

> "I wouldn't want to go back to the old situation. Now our ward can be completely full and it is still very quiet and peaceful."
>
> **Dr. Carola Duijsters, Neonatologist**

"It was very inspiring to work with the Philips Wee Care team. They brought in experts from across the globe to train us, be our sounding board, and help us set out in the right direction."

Freek van Daal, Manager, Woman-Mother-Child Center

Dr. Pieter van Runnard Heimel, Gynecologist/ Perinatologist says, "A real eye-opener for me was how differently nurses and physicians from different departments think. Each department has a different culture and each person looks at their work in different ways. There are bigger contrasts between all of these medical personnel than you might think."

Staff surveys measure progress of transition

During the project, Philips consultants carried out periodic surveys of nursing staff and physicians to track the staff's attitude towards the new facility and way of working. In December 2012, Philips surveyed nursing staff and physicians working across the Woman-Mother-Child Center to identify the top priorities to work on in a process "fine-tuning" workshop. The priorities were to further manage family's expectations and enhance internal collaboration towards the same goal – this provided valuable input for further improvement actions that were carried out in the family-centered care workgroup.

Philips also surveyed nurses and midwives on their perception of "living" the family-centered care vision in October 2013 and in June 2014; a positive evolution over this period was confirmed. The final survey showed that 98% of nurses, midwives, and physicians felt positive about working in the Woman-Mother-Child Center.[f]

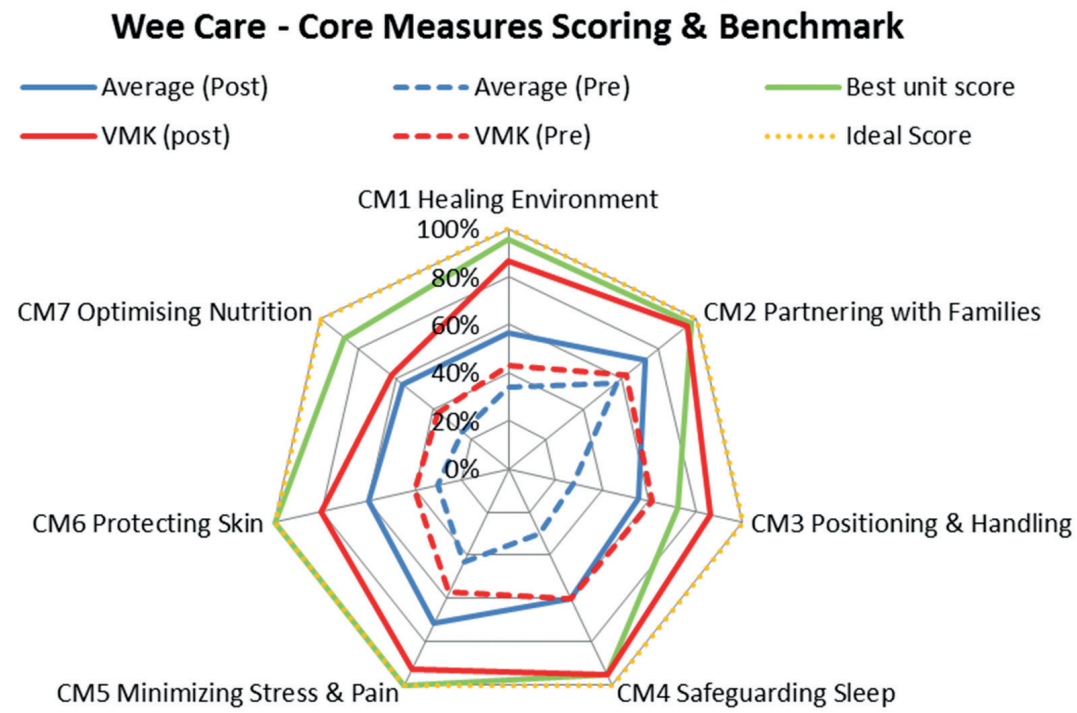
Brigit Oele, NICU Manager says, "We have a much stronger sense of teamwork now. Before people all worked in different departments and rarely saw or spoke with each other. Now, the nurses see more of each other on the different wards and have more contact during the care coordinator meetings." Oele adds, "Staff satisfaction has improved as well compared to the measurements we did two years ago. If you ask them now, I think most would say they would never go back. They stand behind family-centered care and see the importance of keeping the mothers with their babies."

Educational training

In March 2013, Philips brought in clinical experts from across the globe to facilitate a staff training week, co-created with Máxima, and concluded by a leadership

summit. The week of educational training aimed to enhance awareness around Neuroprotective Family-Centered Developmental Care concepts and promote common goals and collaborative practices across disciplines. Around 200 clinicians and support staff were trained over the week. The training program was tailored to Máxima's needs; modules were added and continuing education credits were given to participants for attending.

Van Daal says, "We needed to improve our level of professionalism and Philips supported us in doing that. As a research hospital, we are very scientifically oriented and Philips provided us with fundamental scientific support. They performed validated measurements that we could compare with each other. That was very well received by our staff and management."



The Philips Wee Care team scored the Woman-Mother-Child Center according to its Integrative Developmental Care matrix, before and after the Wee Care project, to measure the progress and benchmark it against 80+ other Wee Care sites.

"Our old way of doing things was much more according to your gut feeling. What I really learned was that measuring is knowing. You have to collect data to analyze a situation and you can also use data to convince people of what you have accomplished. So you can use data to motivate people to get behind the change."

Brigit Oele, NICU Manager

Change management support

After the leadership summit, the Wee Care team provided a planning document to help implement a systematic approach for setting and monitoring the seven improvement projects and changes. The Plan-Do-Study-Act (PDSA) methodology was recommended for most of the actions because it provides a structured way of testing a change on a small scale and refining the change until full implementation is achieved. The family-centered care workgroup was given ownership for carrying out the improvement plan, and used a dashboard to track their progress.

Appointing change champions

To keep the vision of family-centered care alive on the work floor and demonstrate the appropriate mindset and behavior for others, the Wee Care team proposed activating a pool of "change champions" among the nursing staff.

Sylvia van Berkel, NICU nurse, "In the family-centered care workgroup, we looked at the details of the workflow. What is the role of the nurses? What needs to be arranged? What is possible? We created a document for our colleagues that provided essential information for the parents. It was a huge task to bring all of the information together in a structured process, but it really helped to organize and coordinate our care."

Betsy Umans, NICU nurse says, "We organized a quiz game to give clinical lessons to all the nurses from the different departments. Everyone had a different level of information and the quiz was a quick way to bring everyone to the same level."

"Appointing change champions played an important role," says Oele. "The change champions do the same work as their colleagues so it's much easier for them to guide their colleagues through the change process because they've already thought about the issues and can address any resistance they encounter. It's easier to accept that from a direct colleague who has been in their shoes."

Improving communication

To improve communication between different staff members and departments, Philips advised organizing several quick consultation meetings that were at set times each day to align processes with each other:

- Consultation meetings between the on-duty gynecologists and neonatologists
- Consultation meetings between the nursing care coordinators from all four departments

Oele says, “We thought that if we just followed our basic starting points that everything would just naturally run according to our defined process. But that doesn’t work. You need to have daily consultations; otherwise you don’t know who is in which ward, what their condition is, and staff are not on the same page. We noticed that short face-to-face communications worked much better than telephone calls. Those are very valuable moments.”

Dr. van Runnard Heimel says, “The morning handover meeting is especially important. We look at the patient list of who has delivered, and the list of infants in medium care. Are the mother and infant together and if not, why? This is definitely new for us. Because we have daily contact with each other, we can resolve logistical issues early on, together, and that’s very important.”

“It’s easier to anticipate things when you know things beforehand,” says Lisette de Tollenaer, a nurse in the Nursery Department. “Now when we hear that a mother has arrived, we are better prepared for when the physician arrives, which improves patient flow and care.”

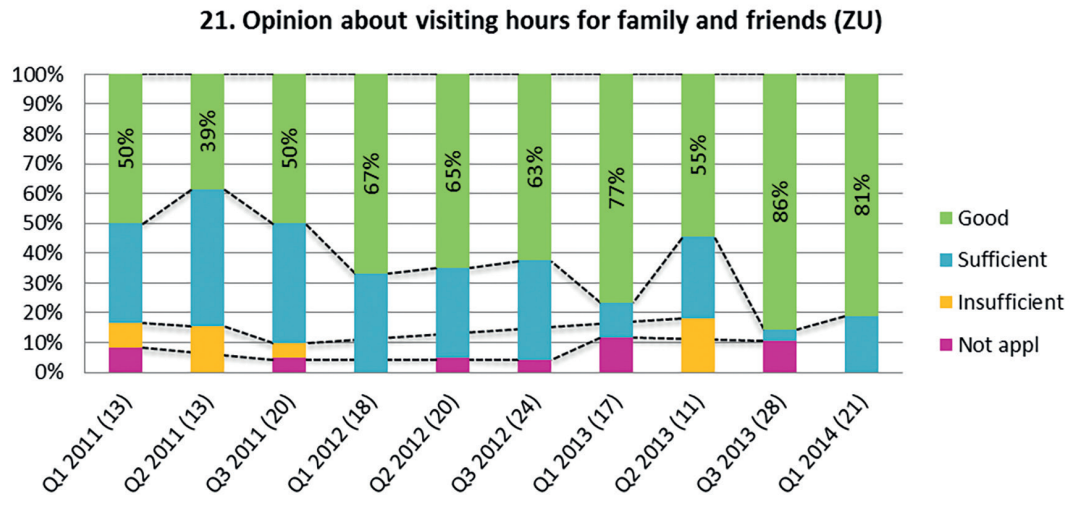
Working efficiently

The new facility is much larger, and staff have to cover much more ground because the wards are now split into single patient rooms rather than multi-patient wards. “In terms of efficiency, walking is not really efficient but we accepted that as one of the realities to providing patient-focused, family-centered care. In the end, we are working with the same number of employees as before, yet we are caring for more patients in a larger facility, demonstrating that we are actually working much more efficiently,” says Van Daal.

Becoming more competitive

Family-centered care has made the new Woman-Mother-Child Center more marketable and competitive as well. Van Daal says, “The Dutch government has turned healthcare into a market-based system, which means that we have to look at how we can create patient loyalty and attract new patients. To do this, we have to provide exceptional service. We listened to the voice of our customers, their desire to stay together in one room, and that’s what we have focused on. Our growth numbers show that this is the right marketing strategy. Since opening, we have grown by 100 patients a year, a 4% increase, which is significant for us.”

The Woman-Mother-Child Center has also improved how it is perceived from patients. The Net Promoter Score survey asks patients if they would recommend Máxima Medical Center Woman-Mother-Child Center to family and friends. Patient satisfaction increased from 58% to 77% in maternity and from 83% to 93% in NICU over two years.[e, f]



Example of an indicator to monitor the performance of family-centered care. It measures the level of family satisfaction regarding the visiting policy in medium care at the Woman-Mother Child Center.

"Now I don't worry about missing an alarm. I know that the alarm is always visible, I'm always accessible, and can reach my colleagues if I need to."

Bianca van Dongen, NICU nurse

Innovative solutions to improve care

Patient Care

The new single patient rooms also presented a challenge for staff in their perception of patient care. Van Daal says, "With single-patient rooms, the nurses felt that they had less visibility of all patients, and their monitor data, compared to when patients were together in one ward.

Philips designed a custom monitoring system with a technical supplier. Alarms produced in the Mother-Woman Child unit were classified by urgent, non-urgent, and technical. Then a system was setup that translated the alarms into actionable information sent to nurses via mobile pagers/phones. Alarms also appeared at a central nursing station, as well as at each patient's bed. Nurses can check any patient's monitor data or alarms from any room or via their beeper.

Van Daal says, "When we initially implemented the system, the nurses complained that the system was not working because there were far fewer alarms. That was the beauty of the system. The infants were much calmer and quieter because there were far fewer noises from the ward environment and alarms disturbing them as documented by Máxima Medical Center clinicians."[11] This is also confirmed by measurement data which shows that the Woman-Mother-Child Center has enhanced the neuroprotective healing environment for the NICU patients by reducing noise levels by one third and light levels by two thirds (as per Wee Care measurements) through the single room design and changes in care practices.[f] Protecting sleep in infants is important because sleep is essential to brain development and maturation in infants.

The Sacred Hour

A shining example of the success with family-centered care is the Sacred Hour, which was implemented in the new single-patient maternity rooms. The first hour of life outside the womb is a special time when a baby meets his or her parents for the first time and a family is formed. It is a "sacred" time that should be honored, cherished, and encouraged whenever possible.

Dr. Raylene Phillips, a consulting Neonatologist, introduced the Sacred Hour concept during the training at Máxima. She explained that skin-to-skin contact between mother and baby immediately after birth has been shown to have multiple beneficial effects.[12]

New mindset

"The greatest obstacles we faced were that we couldn't start caring for the newborn right away. Instead of getting them weighed and dressed, we had to learn to take a break in our care processes," says Ine Kox-Gielens. "There is more peace now after a delivery. As long as we can do our work and be with the mother and baby as needed, it works well."

Making a difference

"I always say to people, 'this hour comes only once in a lifetime. This is the first, most beautiful moment and you don't want to miss it,' says Kox-Gielens.

“Now I would go through fire for the Sacred Hour. I want to make it possible for as many families as I can.”

Lidewijde Jongmans, midwife, says, “When I start explaining the Sacred Hour to women who are nearing their due date, they all get a special smile on their face and I think they are all longing for that moment when their baby is put in their arms.”

Máxima has extended this concept to cesarean sections in the operating room. Dr. Duijsters says, “We now lay the baby immediately on the mother’s breast in the Operating Room. It used to be that with a cesarean section, the baby was briefly put in the mother’s arms and then was taken to the baby ward with the father. We now have a special support that we use to lay the baby on the mother for skin-to-skin contact while we go further with completing any necessary procedures.”

80% of mothers choose the Sacred Hour

The Sacred Hour is very successful. “A recent survey, performed by Máxima Medical Center, showed that 80% of eligible mothers chose to have the Sacred Hour experience and that 94% are satisfied with it. Those are high numbers,” says Jongmans.

Inspirational partner

Dr. Duijsters says, “If you saw what the Wee Care team accomplished in a week it was amazing. They worked really well together and really listened to our input.”

“It was very inspiring to work with the Philips Wee Care team. They brought in experts from across the globe to train us, be our sounding board, and help us set out in the right direction,” say Van Daal. “Our relationship with Philips worked as a sort of fly wheel, where we strengthened each other.”

Oele says, “Working with Philips felt like a collaboration, like we were working with colleagues. I really experienced a sense of support because it was a very complex project and Philips has a great deal of experience from other hospitals. That felt really valuable.”[f]

Next steps

The Woman-Mother-Child leaders will continue working on optimizing family-centered care on the obstetrics high care unit and sustaining results in medium care. Actions will include the initiation of management walk rounds and a parent advisory council to proactively identify potential problems, work on their root causes, and create solutions collaboratively.

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Notes

[a] The Wee Care score went from 122 (3rd quintile) to 207 (5th quintile) measured in a pre-assessment in February 2014 and post-assessment in June 2014.The Woman-Mother-Child Center achieved the second highest score ever out of 80 sites in the Wee Care global benchmarking database.
[b] Survey conducted on 43 nurses and physicians in June 2014 during final assessment.
[c] Survey conducted on 32 families from May-June 2014.
[d] Results from pre-assessment survey in 2012 and post-assessment survey in 2014. Percentage that answered "most certainly" to question "would you recommend Maxima Medical Center Woman-Mother-Child Center to family and friends?"
[e] Results from pre-assessment survey in 2012 and post-assessment survey in 2014. Percentage that answered "most certainly" to question "would you recommend Maxima Medical Center Woman-Mother-Child Center to family and friends?"
[f] Results from case studies are not predictive of results in other cases. Results in other cases may vary.

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