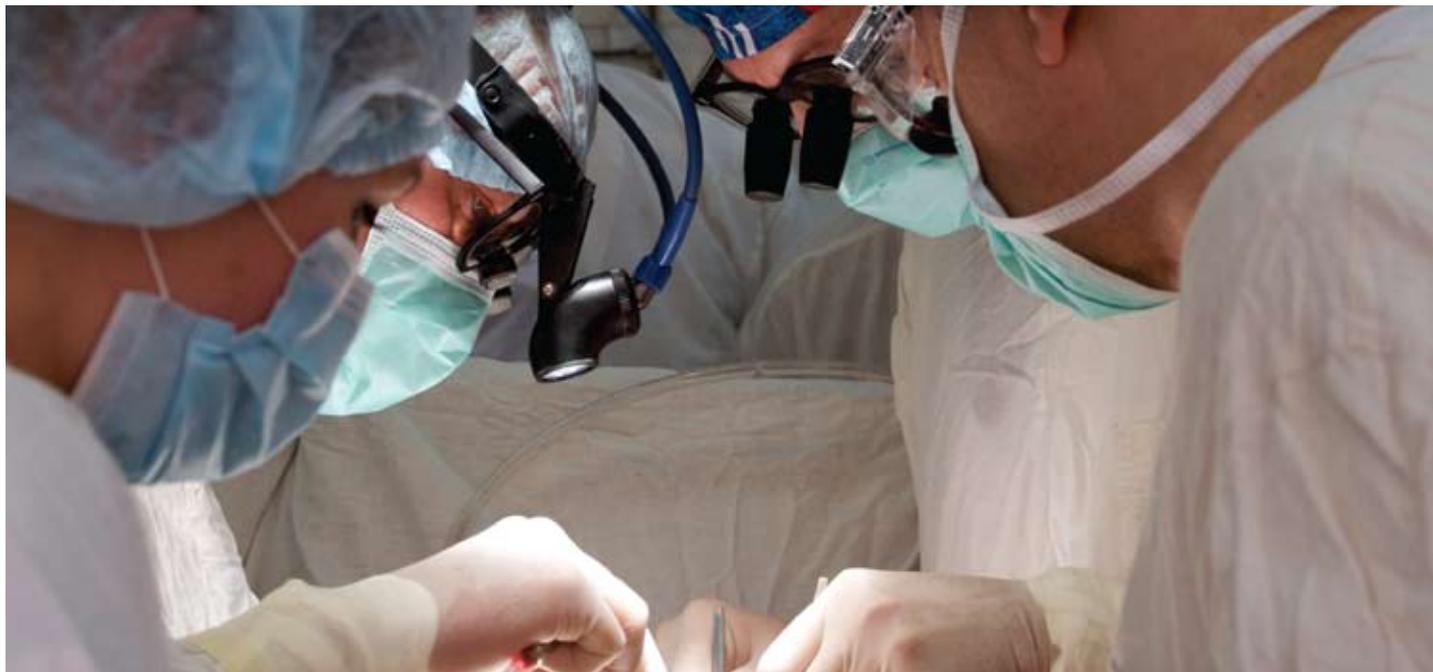


INTO *the* HEARTLAND CAMPAIGN

SITE: SAMARA
DISTRICT: VOLGA
COLLABORATION LAUNCHED: 2003

OCTOBER 18-25, 2009
FINAL MEDICAL MISSION
MISSION 7



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Mission Accomplished! Samara's chief pediatric cardiac surgeon, Dr. Vladimir Goryachev (left), is assisted by Dr. Anton Avramenko (right), in performing a Norwood procedure, the most complex open-heart surgery. Baby Maksim's entire course of treatment – from diagnosis (in utero), to surgery, to post-operative care – was managed exclusively by the Samaran team. Since 2003, Heart to Heart's colleagues in Samara have saved more than 1,500 children.

SELF-SUSTAINABILITY: A REALITY IN SAMARA

On October 18, a team of seven Heart to Heartniks joined our colleagues at the Samara Regional Cardiac Center for our final medical mission to this site. Our specific objective was to update their system for storing and communicating vital patient data. Samara is Heart to Heart's second pediatric site to achieve self-sustainability, which we evaluate using four metrics: patient volume, patient age, complexity of procedures, and surgical outcomes.

Dr. Gary Raff is the lead surgeon for Heart to Heart's Samara team. However, he did not participate in the 2009 mission, because we had determined last year that the surgical side of the Samara program had already reached an advanced level.

Heart to Heart took only three cardiac specialists on this trip, all of them pediatric cardiologists from the UCSF Pediatric Heart Center: Dr. Michael Brook, Dr. Mark Cocalis, and Dr. David Teitel.

Administrative and interpreting support was provided by veteran Heart to Heartniks: Natasha Lusin, PhD., interpreter and medical statistician; Rose Glickman, PhD., writer and interpreter; and Josie Everett, Heart to Heart's executive director. Photographer Joye Leventhal volunteered her time and talent to capture beautiful images of this momentous, final mission. (She then joined us in Rostov to photo-document the launch of our fourth site.)

HEART TO HEART 2009 SAMARA TEAM: UCSF Pediatric Heart Center: Dr. Michael Brook, pediatric cardiologist; Dr. Mark Cocalis, pediatric cardiologist; Dr. David Teitel, pediatric cardiologist and division chief **Heart to Heart:** Josie Everett, executive director; Rose Glickman, PhD, writer and interpreter; Joye Leventhal, photographer; Natasha Lusin, PhD, interpreter and medical statistician.

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Early intervention: Treatment before the age of three is a key factor in combatting childhood heart disease. The Samara team has fully “caught up” with the backlog of children who had been awaiting treatment. Today, in Samara and its outlying region, any child of any age born with congenital heart disease has access to compassionate modern heart care.

The Samaran team in action

Three days before the Heart to Heart team arrived, a baby was born at the Samara center with a seriously defective heart. Without immediate surgery – an extremely complex operation called the Norwood procedure – Baby Maksim would not survive his first month of life. Dr. Vladimir Goryachev, Samara’s chief pediatric cardiac surgeon, led his own surgical team in a successful repair of Baby Maksim’s plum-sized heart.

When asked about the skills of his Russian colleagues at a televised press conference, Dr. Teitel commented, “A pediatric cardiac center is judged by its surgical outcomes. A few days ago, Dr. Goryachev performed the Norwood procedure – the most difficult open-heart procedure. I observed his patient post-operatively in the intensive care unit. The baby’s hemodynamics were excellent, and he looked as well as could be expected. Baby Maksim would not have fared better at my home institution.”

Reaching the gold standard

The advanced Samaran team has achieved the gold standard – successfully performing open-heart surgery on newborn babies. In Russia today, there are still only a handful of heart centers in the entire country where newborn babies can undergo open-heart surgery. The Samaran team is a much-needed resource for the whole country—the national medical community as well as patients.

The graph on page 4 shows the dramatic increase in the number of surgeries performed on newborn babies by the Samaran team since Heart to Heart began our collaboration with them. The Samaran team routinely performs complex procedures on children of all ages, with excellent surgical results. Their outcomes are comparable to those at any high-volume pediatric cardiac center in the US.



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An echocardiogram is a moving picture of a beating heart. By taking specific measurements, the cardiologist can assess the extent of problems with the heart's anatomy and physiology.

TEAM THINK

Veteran Heart to Heart medical volunteer Dr. Mark Cocalis (shown above) has participated on the last five missions to Samara. In addition to being a great diagnostician, he uses every echocardiogram he conducts as a real-time opportunity to teach a roomful of Russian colleagues the finer points of pediatric cardiology.

Dr. Cocalis comments, "I am a cardiologist, but to really do my job, I need to think like a cardiac surgeon. I don't ever want the surgeon to be surprised in the operating room by the anatomy of a child's heart. Similarly, a great surgeon thinks like a cardiologist. When Heart to Heart's cardiologists and surgeons interact to diagnose and treat children in Russia, we are role modeling this kind of 'team think.' Our colleagues grasp very quickly that 'team think' is advantageous to all involved – especially to the patient."

Taking imaging to the next level

Echocardiograms ("echos") and diagnostic catheterizations are the main tools that doctors use to accurately diagnose a child's heart. By comparing a patient's successive echocardiograms, doctors can track changes – positive or negative – to determine the best next step(s) or to confirm that everything is fine.

Drs. Brook, Cocalis and Teitel introduced the Samaran team to a digital system of archiving and retrieving these valuable images on a unit-wide network. Heart to Heart provided both the hardware and software necessary for the new system, and trained the Samaran team to use it. Now, it is possible for every child examined by the local team to have a digital record of examinations and findings.

Teaching the teachers

Dr. Irina Kozeva, chief intensivist (PICU doctor), comments, "Outside of our small circle of cardiac specialists, there is still a general lack of awareness about congenital heart disease. There are doctors in our region who still do not realize that it is possible to perform open-heart surgery on a small baby. Now, as our center's reputation for saving children has grown, doctors have more faith in us, so they are ready to listen."

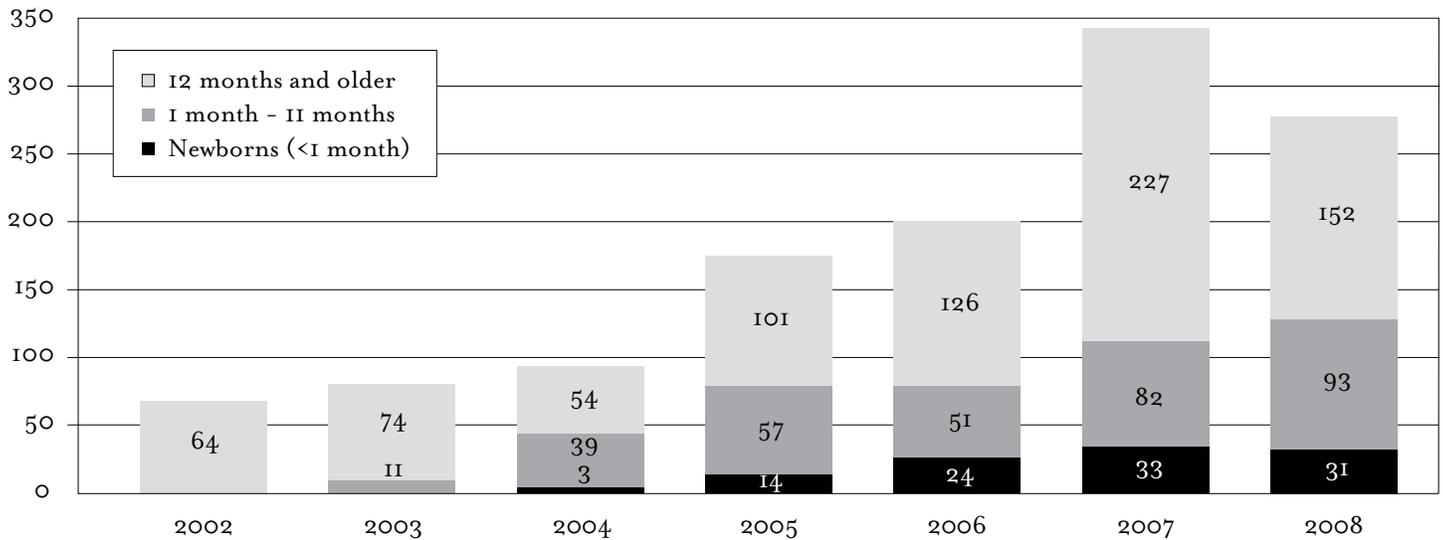
Dr. Vladimir Goryachev adds, "For a long time, there has been a problem with timely diagnosis of newborns. Many defects go undetected because our general physicians are not well-trained in screening for heart defects." To address this, Dr. Goryachev will begin to teach a month-long lecture series on pediatric cardiology to local doctors as part of their ongoing education requirements to maintain their professional licenses.

At the end of the mission, Dr. Sergei Khokhlunov, the CEO of the Samara center and a practicing adult cardiac surgeon, observes with a smile, "Now we are like a little Heart to Heart. This year we took a mini-team of specialists to Kazakhstan on our own initiative. Subsequently, they invited us to make a second trip. And now we have two doctors from Kazakhstan training with us."

"Everything you see here," says Dr. Goryachev, gesturing to indicate the entire pediatric cardiac unit, "is thanks to Heart to Heart. There's an old Russian proverb, 'The best thing we can do for our children is to teach them to function in the world without us.'" What a lovely acknowledgment of Heart to Heart's role in helping our Samaran colleagues build a self-sustaining children's heart program. Like most "parents," Heart to Heart has learned as much from the Samaran team as they have from us.

Based on first-hand reportage and interviews conducted in Russian by Heart to Heart veteran correspondent Rose Glickman, PhD.

SAMARA 2002-2008: OVERVIEW OF SURGICAL PROCEDURES PERFORMED, by year and patient age



The graph above tracks changes in patient volume and patient age (two key metrics used to evaluate progress toward self-sustainability). Here we see that patient volume has more than tripled and the proportion of infant and newborn patients has dramatically increased since Heart to Heart's program launch in 2003. Once the local team is able to perform 250 open-heart surgeries per year on children – including infants and newborns – with excellent surgical outcomes, Heart to Heart considers the program well on its way to self-sustainability.

FINANCIAL OVERVIEW, 2009

FINANCIAL SUPPORT

Alcoa Foundation	72,171
Medtronic Foundation	31,913
Heart to Heart—Into the Heartland funds	2,546
Total Financial Support	\$106,630

TOTAL PROGRAM VALUE

Donated Medical Services	100,164
Non-medical In-kind Donations (Russian)	7,897
Expenses (excluding Non-med. In-kind)	106,630
Total Program Value	\$214,691

PROCEDURES PERFORMED, 2009

CathLab - Diagnostic (5)	40,320
Patient Exams (31)	18,445
Echo Studies + Readings (31)	38,099
Professional Consulting / Didactic	3,300
Total In-kind Medical Services	\$100,164

Mission Accomplished!

Our Samara program is now self-sufficient, after six years of support from Heart to Heart. Thousands of children have already been saved. Two contributors – Ms. Nika Thayer and the Medtronic Foundation – provided substantial funding for the duration of the project: from initial on-the-ground site assessment in March 2003, through the final medical mission in October 2009. Their faith and generosity have made self-sustainability at the Samara Regional Cardiac Center a reality. Their legacy is that thousands more children will be saved.

FINANCIAL SUPPORTERS

Our heartfelt gratitude to the Alcoa Foundation, Edwards Lifesciences Fund, Medtronic Foundation, The Estate of Nika Thayer, Joey's Corner and Joye Photography for their generous support of our journey *Into the Heartland*. We are honored to have them as partners.

