Sanquin
Blood Supply

Blood and Beyond

Annual Report 2011
In motion

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Sanquin in motion

2011 was a very active year for Sanquin Blood Supply on many fronts – in terms of quality as well as the extent of its activities, and even across borders. Chair of the Executive Board Theo Buunen shows us where the momentum in 2011 can clearly be seen.

Donor momentum

"I cannot talk about Sanquin's growth without mentioning our loyal donors, of course. Thanks to their selfless contribution, we are never short on blood or blood products. The establishment of the new National Donor Council was cemented with the appointment of the new president, Mr John van Eijndhoven. The Council is working well."

New construction momentum

"The highest point of the new construction at the Plesmanlaan in Amsterdam has been reached. I expect that the Plasma Products and Research divisions will be able to move into the new building in 2012. The increasing sales of plasma products in particular require more work space. And growth is necessary in order to remain competitive. New construction is also needed for setting up specialised 'dedicated' areas. This way we will continue to comply with the increasingly stricter requirements for work spaces."

Momentum across borders

"Sanquin works at improving the quality of its production facilities on an ongoing basis. This provides a guarantee for quality in the Netherlands. Our growth opportunities are abroad, which means that we must also comply with the requirements of the respective foreign quality organisations. We manufacture the medicinal product Cinryze for the US, which is made from US plasma. Our focus in 2011 was on complying with the strict quality requirements of the US Food en Drug Administration (FDA). We worked long and hard on this. Being active abroad means competing with external parties. With our strategy of growth and cost reduction we should be able to compete there too."

Sales momentum

"A good example is our Reagents business unit. It sells reagents for conducting blood tests in hospitals and labs in the Netherlands. This business unit is also active abroad. In 2011 the unit achieved EUR 10 million in sales. That is why we can now speak of a Reagents division. We are still a minor player compared to the competition, but we are making progress with nice, gradual growth."

Organisational momentum

"In June we published Blueprint 2015, a strategic outline of how our Blood Bank division will look in 2015. According to the Blood Supply Act, Sanquin alone may deal with the collection of blood and production of blood products in the Netherlands. The Minister of Health, Welfare and Sport sets the prices that hospitals pay for these products. The Minister also stresses the importance of lowering costs. Efficiency while retaining quality and service is one of the reasons why we are undergoing a reorganisation. This reorganisation will have consequences for our employees at some locations."

Health care momentum

"Sanquin is a knowledge-driven organisation, which is why we keep on working on innovating our products and services through scientific research. A part of this research is fundamental and will yield practical, applicable results only in the long term. Another part is oriented towards concrete improvements in health care. A good example of this is the change of the rhesus-D screening programme for mothers-to-be".

Sufficient potential

"In retrospect and looking forward, I see that we initiated a great deal of changes in 2011. We will be quite busy in the coming years to work everything out and implement the new measures. We have plans for new construction, and we want to continue to increase the production of plasma products. Of course, the difficult economic situation also impacts the demand for blood products. We've noticed this both in the Netherlands and abroad. We have to keep a sharp eye on the competition and continue to increase our organisation's efficiency."

What we do:

'Knowledge is continuously in motion, in that respect 2011 was no different than any other year'

Thumbs up for all blood donors!

14 June is World Blood Donor Day. It is a day for honouring blood donors, who save thousands of lives every day by donating their blood. In 2011, Sanquin Blood Supply shone the spotlight on 400,000 blood donors in the Netherlands in very special fashion.

To thank all of the blood donors for their selfless contribution , Sanquin had an enormous chocolate thumb (similar to the Facebook "like" thumb) placed in the Plein (Main Square) in The Hague. Sanquin invited its blood donors and everyone who wanted to thank them to come to the Plein on 14 June 2011.

Pia Dijkstra

There, former anchor-woman and D66 Member of Parliament Pia Dijkstra unveiled the unique monument. The four-metre-high "like" thumb attracted a lot of curious passers-by; even a few politicians stopped by. Chocolate lollypops in the shape of the "like" thumb were handed out to the public.

I like blood donors

The chocolate monument to the blood donors was the result of a major national campaign by Sanquin. Some 30,000 visitors clicked on a "like" button on the special temporary campaign website 'I like blood donors'. By doing so they showed their appreciation for everyone who gives blood to make someone else's life better. A fantastic gesture.

Bundled donor power

Sanquin Blood Supply could not exist without its 400,000 repeat donors. We paid a lot of attention to this fact in 2011 with the introduction of the donor passport, a study into waiting times and the inauguration of the new National Donor Council.

These three important developments characterised 2011 for Sanquin's donors. Director of Donor Issues Wim de Kort was closely involved with these developments. "Since 2011, all donors have been issued a donor passport. This solidifies the donors' connection with Sanquin." The passport contains the donor's personal information and the information important for blood collection. It enables much quicker registration of the donor's particulars when he or she comes in to donate blood, since the particulars can now be scanned.. "We don't put confidential/ privileged information in the passport; you can't use it for identification purposes," says De Kort. "The donor passport is ready for future digital developments that can offer our donors convenience or advantages."

Wait time study

Sanquin conducted a wait time study amongst donors in 2011. "No one likes having to wait long," says De Kort. "Certainly not if you are selflessly giving blood. We advise donors to come in at times when it is generally less busy. We do also understand that this is not feasible for everyone. The standard that we have set for ourselves is that whole blood donors should be ready to go home within one hour after they've come in to donate blood. We achieve this goal in 90% of cases for the whole blood donors. The process of donating plasma takes a bit longer, but here too, we remain largely within the limit that we've set for ourselves. There is still a 10% margin which we can improve on. But this is a matter of minutes, not hours. We're looking at the options for reducing waiting times even more and to make waiting more pleasant: a cushioning of the wait, if you will. Waiting is a real hassle to most people and we want to prevent it as much as possible."

The new National Donor Council

On 1 January, the new National Donor Council was inaugurated with its new independent president, Mr John van Eijndhoven. At the same time, the new structure for donor participation was introduced. In addition to the president, the National Donor Council consists of the presidents of the four regional donor councils, a representative of the national donor association and three independent members. The National Donor Council meets six times per year. De Kort comments: "In 2011 we had very constructive discussions about the donor appreciation policy and the function of the Complaints Committee. This is most positive. The National Donor Council thinks along with us in a very constructive manner, and our policy reflects their judgment." The Council also provides editorial feedback in the donor magazines.

High-quality research

In January 2011, a report was published about ourDonor Studies department as a result of a visitation committee visit in November 2010. The Donor Studies department conducts scientific research to improve the treatment of (candidate) donors. The committee judged not only that the department is very productive but above all that it does high to very high-quality work with a clear national and international impact.

Almost 4,000 T-shirts for donors at the International Four Day Marches Nijmegen

Almost 4,000 blood donors wore running shirts provided by Sanquin during the four-day event

A sporting event for a sporting thought: the International Four Day Marches is a great opportunity to inspire donors. In part thanks to all the donors who proudly wore the T-shirts that Sanquin provided, Sanquin was able to highlight blood donorship positively during the biggest event in the Netherlands. Ultimately, 3,709 of the 41,316 participants wore Sanquin T-shirts. This means that one in 10 participants at the International Four Day Marches was a blood or plasma donor.

Mobile blood collection location as a care station

"The special T-shirt wasn't all our donors received from us," says Imke Sikkema, Account Manager at Donor Issues. "We were stationed at the start and at the finish line the entire week to support donors and have a chat with them. The booth also saw a lot of visitors, and the great thing is that no fewer than a hundred people registered as new blood donors." On the first day of the marching event, Sanquin's Mobile Collection Location (MCL) was located halfway along the route in the village of Elst as a care station. Lots of donors were only too grateful to avail themselves of its facilities.

Party tent on the 'Via Gladiola'

Traditionally, the International Four Day Marches ends with the celebratory arrival of all participants on Sint Annastraat, which is renamed Via Gladiola for the occasion. Many Sanquin employees stood along the route to cheer on the participants during their last few metres. The donors, who were easy to recognise in their orange T-shirts, were treated to a snack and drink in the Sanquin party tent.

Thankful and proud

Sikkema comments: "After the International Four Day Marches ended, we received a lot of thank-you notes from the donors at Sanquin. They told us that they were proud to participate in their orange T-shirts and above all that they were very thankful for the warm reception they received from Sanquin. We, in turn, are very proud that so many people spontaneously registered in order to promote blood donorship."

11,000 fewer anti-D shots for mothers-to-be

In 2011, Sanquin Blood Supply was commissioned by the National Institute for Public Health and the Environment to conduct rhesus D screening. A new blood test makes it possible to determine an unborn child's rhesus D blood group in the 27th week of pregnancy. The research and development of this rhesus D screening is a Sanquin discovery. The national adoption of this test in 2011 makes it unique throughout the world.

Until recently, all pregnant women in the rhesus D negative blood group received a so-called anti-D shot in order to prevent them from producing antibodies in the event of a possibly rhesus D positive child. But this is now a thing of the past with Sanquin's new blood test. This scientific breakthrough has resulted in a reduction of 11,000 anti-D shots. And that's good news, because it was becoming increasingly difficult to find suitable donors for the 43,000 annual shots that were given in the past, since the vaccine is made of plasma from women who at one time produced the antibodies themselves during their pregnancy.

Long-standing intensive cooperation

An excellent example of constructive cooperation between the Research, Diagnostics, Blood Bank and Plasma Products divisions, it was the result of years of work: Dr Ellen van der Schoot discovered back in 1997 from literature review that it had to be possible to determine the rhesus D type of the unborn child based on DNA released in the mother's blood. "I was looking for a solution to this antibody problem because I believe that antibodies should be administered in the most targeted manner possible. In principle, it's not dangerous, but it always entails an unknown risk. You shouldn't administer blood products if that isn't necessary."

From research to testing

Dr Masja de Haas from the Diagnostics department turned Van der Schoot's research into a real test in the past few years. "Our department makes sure that the logistics are correct and the facilities are in place to immediately determine and quickly process the results of the on average 105 samples per day that we receive from throughout the Netherlands. This centralised approach, which is unique to the Netherlands, is always the same and makes the results very reliable."

Fewer plasma products

The introduction of the test has greatly affected the required number of anti-D shots. Forty percent of rhesus D negative women appear to be pregnant with a rhesus D negative child. The shot is unnecessary for them. This was taken into account after delivery, but this was not possible for the shot during pregnancy. "All in all, 25% less anti-D will be needed," says Christine Kramer, product manager of Plasma Products. "Sanquin produces the anti-D shot itself. The Health Council has indicated that it is in favour of the anti-D collected from unpaid Dutch donors. Sanquin's anti-D is thus in line with the Health Council's preference. With less anti-D needed, it will be possible to become self-sufficient. Sanquin has a social task that it wants to carry out together with a group of motivated donors and midwives."

Rhesus D screening

Until recently, all pregnant women in the rhesus D negative blood group received the so-called anti-D shot in order to prevent them from producing antibodies in the event of a possibly rhesus D positive child. Whether a child was rhesus D positive or negative could not be determined until after birth by means of umbilical cord blood examination. Sanquin now receives a vial of blood from every pregnant rhesus D negative woman in the Netherlands in her 27th week of pregnancy. The Immunohematology Diagnostics Laboratory tests whether the woman is expecting a rhesus D negative or positive child. If the child is rhesus D positive, then the woman will receive an anti-D shot in week 30. No other pregnant women will receive the shot. The post-birth shot is now also given based on the results of week 27. It is therefore no longer necessary to take umbilical cord blood to determine the child's rhesus D blood group. This will only be done in 2012 within the scope of the national evaluation study.

Campaign familiarises the Dutch with blood donorship

Three-quarters of the Dutch population are familiar with the phenomenon of donating blood, according to research done by TNS Nipo on behalf of Sanquin Blood Supply in the autumn of 2011. Since 2009 Sanquin has been conducting an active campaign to make the Dutch more aware of blood donorship and how important it is for ensuring the supply of blood.

Saving lives

TNS Nipo polled 1,059 Dutch residents regarding their familiarity with blood donorship and their willingness to become a blood donor. One in five participants in the survey indicated that they were more inclined to donate blood if they themselves knew a donor. The role of social media is becoming increasingly important when it comes to "personal" acquaintanceship with a donor. Many donors tweet or report on Facebook that they will be giving blood. This way, their (online) friends also become familiar with blood donation. These are the most important reasons for giving blood: saving lives (66%), helping others (61%) and giving blood because you also want to receive blood if necessary (25%).

Awareness campaign

Since 2009, Sanquin has been conducting a special campaign with the goal of familiarising more people with the importance of blood donation and blood donorship. The essence of this long-running awareness campaign is that by donating blood you can save someone's life! Donors can save another persons's life with their blood even while they go about their daily business. Sanquin has been spreading this message via the Internet, radio commercials and newspaper ads. All Sanquin vehicles are also labelled with the campaign slogans.

Other activities

Sanquin believes it is important to make as many people as possible aware of the importance of blood donation. In addition to the awareness campaign, Sanquin also participates in the annual World Blood Donor Day (14 June) in order to call attention to the phenomenon of blood donorship. In 2011 this event was commemorated with the 'I like blood donors' campaign [link to: Thumbs up for all blood donors!], an online campaign via Facebook to make blood donors the centre of attention. The campaign was wrapped up in a playful manner on the Plein in The Hague.

Open house

Sanquin also organises an open house every year. In 2011 this event was held on Saturday, 29 October. No fewer than 1,200 people visited one of the four locations in Tilburg, Amsterdam, Rotterdam and Groningen. The visitors were given an explanation of the importance of blood donorship, and they got a chance to take a peek behind the scenes to see what happens with the blood after donation.

These are the most important reasons for giving blood:

New test to detect donors infected with hepatitis B

Sanquin Blood Supply has introduced a third test (anti-HBcore screening) for hepatitis B infection in order to make its blood products even safer. It is expected that Sanquin will have to exclude about 800 of its existing 400,000 donors as a result of this test.

Since 19 June 2011, for every donation, Sanquin has conducted a new test in the National Screening Laboratory (NSS) to be able to exclude donors with traces of an infection with the hepatitis B virus (HBV). Blood donations have been tested for the presence of HBV since the mid-1970s. This virus can cause a liver infection.

Additional testing for the hepatitis B virus

Initially, only the HbsAg test was used to test for HBV, which can prove the presence of HBV. This test was supplemented by another test as of November 2008: the HBV DNA test. "Instead of the expected two to three donors per year, we found at least 10 donors who were HbsAg negative but who appeared to be positive in the HBV DNA test," says Harry Bos, Manager of the NSS. "These are primarily donors with a latent hepatitis B infection. They have recuperated from their HBV infection and are no longer contagious to their partners or children, but the virus is still 'slumbering' in their bodies and can from time to time end up in their blood by way of the liver. It is during these brief contagious periods that they can infect others through blood donation."

Safe donors

After the introduction of the HBV DNA test, Sanquin had to exclude 22 donors as blood donors. But research proved that this test is inadequate when the number of virus particles in the blood is too low. Harry Bos explains: "for that reason, the Sanquin Medical Advisory Council recommended that blood also be tested for HBcore antibodies as a standard measure. This test has a much higher sensitivity for detecting latent infections compared to the HBV DNA test; it's probably optimal. Our routine screening already included tests for hepatitis B and C, HIV and a leukaemia virus. These have now been supplemented with a test for HBcore antibodies. If the test is positive, we repeat it twice more. If it is then negative twice, we consider the donor to be safe."

One-time loss

"Our initial figures show that we should expect to exclude 800 of our 400,000 donors," says Bos. "Considering that we recruit about 40,000 new donors annually, we can absorb the one-time loss of 800 donors. For new donors, where the presence of infectious illnesses is relatively more frequent, the percentage of exclusions due to (latent) hepatitis B infection will be about five times as high (1%); that equates to about 400 people."

The National Screening Laboratory

In the National Screening Laboratory, Sanquin examines blood donations for blood-borne infectious diseases and determines the blood type. Every day about 4,500 donations are examined, a total of 930,000 donations per year. After inspection, the test results regarding the infectious diseases and the blood type data are electronically forwarded to the Blood Bank Information System, where they are used to release blood products for delivery to hospitals.

Effective immunotherapy closer at hand thanks to longer-living antibody

Researchers at Sanquin Blood Supply discovered how they might keep the most powerful antibody IgG3 alive longer. In 2011 they published an article about this in Nature Communications, one of the online publications by the renowned magazine Nature.

Immune therapies use antibodies to fight tumour cells. The IgG3 antibody is by far the best at this. But while other antibodies stay alive for three weeks, this antibody disappears from the body after just one week. While other scientists left IgG3 alone for this reason, Gestur Vidarsson, researcher in the Experimental Immunohematology department, went to work on this antibody.

Expensive medicine

"If IgG3 only remains alive for one week, you have to make large quantities of it because you have to treat the patient more often with larger doses. This makes it very expensive. I wanted to discover why this antibody has a shorter life span than other antibodies and how we could extend this life span," says Vidarsson enthusiastically.

Arginine versus histidine

The answer lay in the amino acids that make up the IgG3 antibody. In contrast to other antibodies, IgG3 contains the amino acid arginine in a certain position. Other antibodies contain the amino acid histidine in that position. Vidarsson: "This is why IgG3 loses the battle to be recycled in the body. When we change the arginine to histidine in IgG3, then IgG3 is recycled normally. You then get a very strong antibody that remains in the body just as long as the lower-quality antibodies."

Donors and mice

The next step in the research consisted of Vidarsson and his colleagues confirming that IgG3 antibodies from donors who produce histidine naturally survive longer in people. "We made this version and an IgG1 version which both detect pneumococci – a bacterium that causes pneumonia. We then tested whether both antibodies protect mice from pneumonia. We treated some of the mice with the IgG1 antibody because this version would normally be the first choice. The other mice were administered the IgG3 with histidine. This test confirms that the IgG3 antibody with histidine lives just as long as the other antibody but is more effective at supporting healing.

Further research for applications

Vidarsson's discovery led to publication in 2011. But this is not the end of the research. Vidarsson: "The question of whether the IgG3 antibody with histidine can be used for therapy in people is our next step. Ideally, our discovery would mean the creation of a better medicine. We believe that the IgG3 with histidine could be very beneficial in immunotherapy against cancer. We will research this further."

Sanquin discovery: the immune system brakes itself

During immunotherapy, a patient's or donor's immune cells are mobilised to fight certain forms of cancer. Unfortunately, this therapy is not always equally successful. Sanquin researchers discovered that the immune system automatically stops when immune cells attack cancer cells. This is because immune cells view the cancer cells as being naturally produced by the body. By turning off the automatic brake, immunotherapy becomes more effective, say cellular biologist and immunologist Timo van den Berg and his research group, whose research on the subject was published in 2011.

Timo van den Berg has been working on this research for six years, but the long-awaited break-through came in 2011. Van den Berg: "The immune system sees the cancer cells as healthy cells that are produced by the body, which, naturally, it doesn't want to attack. That's why the brake is applied when cancer cells are attacked by the immune system. We have now found a substance that temporarily blocks this braking process. In animal studies, the effect of immunotherapy increased by 100% with this substance. We are now going to investigate whether it will work just as well in people."

Immunotherapy as a replacement for chemotherapy

The discovery sounds promising, but what does this mean for patients in concrete terms? Van den Berg explains: "If we can also improve the effect of immunotherapy for patients, then this means that chemotherapy might no longer be necessary for cancer. This would be wonderful because immunotherapy is a much less invasive treatment; the body clears away the harmful cells and leaves the healthy cells alone."

Therapeutic antibodies

At the moment, many pharmaceutical companies are working on developing antibodies that can be used in immunotherapy. Van den Berg comments: "We believe that the temporary removal of the brake is a way to improve the effect of the antibodies. Thereafter, it may be possible to use immunotherapy for various forms of cancer. This would be good news for patients."

More research into how the immune system functions

The current discovery has put Sanquin on the trail of something interesting. "We are currently examining various aspects of this phenomenon," says Van den Berg. "How are immune cells told that they have to keep quiet? Or that they have to work harder when you release the brake? And what are the possible side-effects of temporarily shutting the brake off? We want to find out."

Stirring curiosity in 2011

"A discovery almost always raises more questions than it answers. That's certainly true in this case," says Van den Berg. "But that's a good thing. It puts you on the trail of new relevant questions as a researcher. Knowledge is continuously in motion, and this is no exception at Sanquin. In that respect, 2011 was no different than any other year."

More Q fever infections than previously thought

In 2011, research conducted by Sanquin Blood Supply demonstrated that many more people in the Dutch provinces of North Brabant and Gelderland were infected with the Q fever bacteria (Coxiella burnetii) in recent years than previously thought. Boris Hogema, researcher in the Blood-Borne Diseases division, talks about the research, the discovery and what's in store.

In order to better protect patients, Sanquin wanted to know how many people were still contagious, though they did not become sick. Examination of donors began in 2009 – the year that saw the most infections, as was determined later on. "We had the biggest outbreak of Q fever ever over the past few years," says Hogema. "And the number of infections is always higher than the number of registered patients. That's because some people are infected but do not have any symptoms; or they experience symptoms but don't go to the doctor. These patients are not registered."

More Q fever infections than assumed

Research showed that the difference between the number of registered patients and the number of cases measured by Sanquin was approximately a factor of 10. That's a big difference. Converted into numbers, there are some 36,000 unregistered cases of Q fever compared to the 4,000 registered patients with Q fever. Hogema: "When donors report that they had Q fever, they are rejected as donors in any case for the safety of patients in the Netherlands."

Research into Q fever

In order to research Q fever, Sanquin collected an additional vial of blood from the 40,000 donors in 2009 who gave blood in the region where Q fever occurred most frequently. Hogema: "Thanks to the type of work we do and the willingness of the donors, 99% of whom cooperated, we were able to put together an extraordinary collection of samples. A selection of these samples was screened for Q fever." In 2010, the blood of donors who lived in the region with the most Q fever infections was tested for Q fever. However, no positive donations were found because the epidemic diminished. Since 2011 the Q fever epidemic appears to have been eradicated thanks to the measures taken by the government in 2010.

Measures in the event of a new outbreak

How would Sanquin handle another outbreak were one to occur? Hogema: "The Health Council has advised that donors again be screened for acute Q fever if there is another outbreak. In addition, the possibility of donors having to be screened for the development of chronic Q fever is being examined. This happens in 2%-5% of people who have had acute Q fever. The question is whether we will have to start screening all of the Netherlands or only people living in the risk areas. What would this cost? Should an outbreak happen again, then we would in any case be prepared."

Sanquin helps Artis with elephant blood transfusion

An unusual but interesting task for Sanquin Blood Supply: collecting elephant blood in the Artis Zoo in Amsterdam. In January 2011, Sanquin transfusion doctor Hans Vrielink helped collect blood from the elephant Thong Tai. She was pregnant, so her blood contained the right antibodies for elephant babies.

In captivity, few elephants are born. Thirty percent of them are rejected by their mothers and miss out on the antibodies from the mother's milk. Luckily, Sanquin can extract the same antibodies from the blood plasma of a pregnant elephant. This can then be administered to the rejected youngsters. But about five litres of elephant blood are needed to produce sufficient plasma, a quantity that Artis cannot process itself.

Sanquin as expert

Because Sanquin is the expert in the area of blood transfusions, we were the right ones to help with this elephant transfusion. But even for Sanquin collecting elephant blood is not an everyday task . However, as a knowledge centre for blood transfusions, Sanquin turned out to be quite capable of collecting and processing the elephant blood.

Lending a foot

But how does one take blood from a four-thousand kilo elephant? The Artis elephant handlers, Sanquin's Hans Vrielink and veterinarian Mark Hoyer demonstrated this in January 2011 for elephant Thong Tai. For safety reasons, there was a fence placed between the pregnant elephant mom and the elephant handlers. The well-trained Thong Tai placed her foot through the fence so that the veterinarian could insert the syringe into the elephant's groin.

Processing blood

Sanquin's most important role was processing the blood. The blood went to Sanquin's Processing department the same day. The department was entirely cleared out in order to prevent crossing lines with human blood. The blood was then manually strained and the plasma was frozen.

Plasma to another zoo

Mumba, Thong Tai's daughter, was born on 18 June 2011. Mother and daughter bonded immediately and the plasma was not needed. Mumba nursed on her mother and hence received everything needed to become a healthy adult elephant. The plasma is now in the freezer at the Blijdorp Zoo in Rotterdam, which has a breeding programme for Asian elephants.

Another Sanquin researcher appointed as University of Amsterdam professor

Sanquin Blood Supply has cooperated with the University of Amsterdam for a long time now. The appointment of Dr Peter Hordijk in December 2011 as special professor of Molecular Cell Biology of Cell Migration further reinforces this collaboration.

In 2011 Sanquin took its first steps in this collaborative partnership with the Swammerdam Institute. This research institute is a part of the University of Amsterdam's Faculty of Natural Sciences, Mathematics and Computer Science. The Swammerdam Institute conducts research in the area of life sciences, examining living organisms or cells in order to obtain knowledge of biological processes. This knowledge is used to better understand the causes of specific diseases or to develop new medicines.

Master's and doctoral students reinforce the Sanquin team

"My role as a professor needs to be developed," says Hordijk. "In any case, I will be counselling master's students of the Swammerdam Institute during their internships. At the moment, students of the Faculty of Natural Sciences, Mathematics and Computer Science often do their internships at the Swammerdam Institute itself. Soon they will be able to knock on Sanquin's door more often. Doctoral students will also be able to conduct their research in part at Sanquin and in part at the university. Of course, it is interesting for them to work at an institution outside of the university."

Cooperation between Sanquin and the University of Amsterdam

For a research institution like Sanquin it is important to maintain ties with the outside world. Hordijk: "We are continually establishing more research guidelines in cooperation with other groups or even with international institutions. Our collaboration with the University of Amsterdam fits right into this. For a university, it is beneficial to have some of the professors from other institutions connected to the university. They expand the research field, can provide counselling to doctoral students, and we benefit from each other's knowledge."

Professors, doctoral students and research assistants (post-docs) at Sanquin

In 2011, six professors worked in the Sanquin Research division, along with 75 doctoral students and 75 researchers who had already obtained their doctorates. Every year, between 10 and 15 new doctoral students start their research at Sanquin, and all of them receive their degrees. This makes Sanquin a breeding ground for scientific talent.

Research into intact blood vessels

More "bonding" with the outside world is illustrated in the Molecular Cell Biology division by means of the type of research being carried out there. Hordijk explains: "We want to make our research more relevant to patients and donors. We are going to be looking at the consequences of blood transfusions on intact blood vessels. In the long term, such research could result in a new medicine or a change in how certain illnesses are treated, for example." The technologies required for this research stem from the collaboration with the Swammerdam Institute, which has a lot of knowledge about high-resolution microscopy. Hordijk concludes: "The combination of high-grade technology and the research that we want to conduct will hopefully yield useful results. Ultimately, that's why we're doing it."

Sanquin tests donors for the breast milk bank

The breast milk bank in the Free University Medical Centre in Amsterdam collects breast milk for premature babies. On 24 November 2011, the Dutch Breast Milk Bank officially opened its doors. Sanquin Blood Supply conducts all of the donor testing for this organisation.

The Breast Milk Bank is an initiative of the Free University Medical Centre and is unique in the Netherlands. Various studies have shown that premature babies who receive breast milk develop better than babies who receive formula. But often mothers of premature babies are unable to produce sufficient milk or their milk is unsuitable due to use of medications, for example. These babies can benefit from donor milk provided by the Breast Milk Bank.

Breast milk quality

"The Free University Medical Centre is working together with Sanquin to test donor milk," says Marie-Jose Wouters, head of donor physicians at Sanquin's Blood Bank North West. "We have the people, knowledge, equipment, capacity and long-standing experience to test potential donors. And the Breast Milk Bank benefits from this expertise. The testing is the same as for potential blood donors. Only the criteria were changed in certain regards. We pay special attention to medication and alcohol use as well as weight. Different than with blood donors, milk donors may not use any medication at all, for example."

Retesting after three months

The donors place the milk into the bottles donated by the Free University Medical Centre themselves at home and save it in the freezer. A courier picks up the full bottles and delivers new bottles. The milk is pasteurised at the Free University Medical Centre and stored in a freezer for a maximum of six months. Every donor is retested after three months. Wouters comments: "We had expected most of the women to stop donating, but many indicate that they want to continue."

Lots of applications

Finding donors is no problem at all. The ample publicity in newspapers and magazines surrounding the opening resulted in a lot of applications. "The reason women want to donate breast milk is simple," says Wouters. "They want to help vulnerable children. They are no different from blood donors when it comes to motivation. What's more: many of them are also blood donors and are happy to make an additional contribution."

Scientific research

The Free University Medical Centre conducts research into the question of whether donor milk has an actual advantage over bottle feeding, because a part of the active substances in breast milk is lost by freezing and pasteurisation. The researchers hope to prove that premature babies who receive donor milk get fewer infections than children on formula. In this case, the intent is for all premature babies in the 10 neonatal intensive care units in the Netherlands to receive donor breast milk. But, of course, this only applies to cases where there is not enough breast milk available from the baby's own mother.

Sanquin helps Pakistan set up blood donor system

Pakistan does not have a structured blood supply like the Netherlands. Patients who need blood have to arrange for it themselves, either through family members or on the free market, where donors offer their blood for payment. In order to establish a reliable and safe blood supply with donations from voluntary donors, the National Blood Transfusion Program was recently started in Pakistan. Sanquin Blood Supply is involved in this project.

"Sanquin is providing the expertise with regard to content," says Martin Smid, Managing Director of Consulting Services. "After all, we understand the blood bank business. One of our main goals is to teach people in Pakistan how to improve their blood supply themselves. In addition to setting up a voluntary donor system, we are involved in improving processes. Ultimately, we want to ensure that there is sufficient blood in Pakistan and that it is used in a sensible manner. We still regularly see unnecessary blood transfusions take place despite the major shortage."

Voluntary donor system

After a slow beginning in 2011, many projects have since been launched in Pakistan. Smid: "We organised workshops about setting up a voluntary donor system. We did that with the local people who will be shaping the system in the future. They researched what motivates potential donors. Why do they or don't they want to become a donor? If we know that, we can respond through media activities, such as telling people about the usefulness of donorship."

Training transfusion doctors

"We want to improve the quality of transfusions in Pakistan through education. In 2011 we began setting up education about blood transfusions. We are doing this together with the locals, who will soon play a role in this regard. The people we are training now will in turn have to train the people who will perform the transfusions."

Blood tests

Proper testing is vital for blood transfusions. "In 2011 one of our consultants reviewed the current testing situation," says Smid. "What's at play in a country like Pakistan, and what are the prudent next steps? In order to see this clearly, you have to take off your Dutch glasses and immerse yourself in the situation on site. It is only then that you can improve things." Introducing testing in countries like Pakistan is often a complicated administrative procedure because the government pursues a policy of central procurement and contract awarding. Smid concludes: "Together with our Pakistani colleagues, we are looking into the best solution for them within the existing limitations."

IgA-deficient blood products always available thanks to special donor database

In 2011 Sanquin Blood Supply started a new database of donors who are missing the IgA antibody in their blood. Their donations make life-saving treatments possible several times per year.

The IgA antibody protects people from fungi, bacteria and viruses, among other things. One in 700 people in the Netherlands is IgA-deficient. This means that they lack IgA. Most people don't notice this, but about 10% are hindered by it, often due to repeated bacterial airway infections, ear, nose and throat infections and sometimes gastrointestinal issues. IgA-deficient people who receive regular blood products sometimes make antibodies against IgA. Any subsequent blood product that they are administered must not contain any (or hardly any) IgA because this could result in a serious allergic transfusion reaction.

Of vital importance

Every year, Sanquin receives several requests for blood products containing little to no IgA. This was a good reason to set up a national database of IgA-deficient donors. Project Manager Marian van Kraaij explains: "This concerns IgA-deficient blood platelets (thrombocytes) and plasma. These can be vitally important, for cardiac surgery, major trauma or intensive haemato-oncological therapies, for example. Red blood cells can be stored for up to five weeks, and if needed, you can wash these on demand, thereby ridding them of IgA. Our mission is to be able to deliver the right product to all patients who need a transfusion. Even for very rare blood cases."

Male donors

Sanquin would like to have a database of between 20 and 30 IgA-deficient donors. To this end, in 2011 Sanquin started the screening of 15,000 male donors who had already consented to the collection of thrombocytes via apheresis. With apheresis the necessary substances are removed from the blood. The rest of the components are returned to the donor. The choice for men is in accordance with the current guideline that prescribes the use of male plasma and thrombocytes. Female blood can contain antibodies because a woman can produce antibodies during pregnancy against the antigens of her unborn child that the woman herself does not have. Such antibodies can result in adverse transfusion reactions.

Donation on demand

"You cannot keep thrombocytes in stock," says Van Kraaij. "You can only keep them for seven days." Due to the limited shelf life of thrombocytes, we are looking for people who are available on demand to donate thrombocytes. Donors are told that they are IgA-deficient at the screening. Does this make them a patient themselves? "No," explains Van Kraaij. "We provide the donors with comprehensive information about what this means for them. Ninety percent of people with IgA deficiency have no symptoms, except that they also have a chance of an allergic reaction after a blood transfusion."

Enough donors

By the end of 2011 the tally stood at eleven new IgA-deficient donors. "They immediately gave their consent," says Van Kraaij. She cannot say whether or not the 20 or 30 intended donors will be reached. "If we have sufficient donors for each different blood group, we're happy."

Booming international plasma product sales

Sanquin Blood Supply's Plasma Products division achieved a milestone in 2011. The year marked the first time that revenues from international activities exceeded plasma product sales in the Netherlands. This is especially remarkable in view of the fact that Sanquin primarily supplies the Dutch health care sector. The change is the result of more efficient use of the available production capacity for international customers and increased international demand for Sanquin products and services.

Sanquin receives both blood and blood plasma from donors. From the blood plasma, Sanquin isolates a series of medications for treating a number of disorders. The need for blood plasma is determined by the medication that is most needed to treat patients. Division Director of Plasma Products Robert Tiebout comments: "For the Dutch market, the need for immunoglobulins is decisive for collecting sufficient blood plasma. The Dutch health care sector is seeing a growing need for immunoglobulins because more patients are being diagnosed with immune diseases and an increasing number of other illnesses are being treated with immunoglobulins."

Greater demand for immunoglobulins

The demand for immunoglobulins is increasing not only in the Netherlands but worldwide as well. Tiebout continues: "In recent years we were confronted with the discontinuation of an immunoglobulin product made by another manufacturer – on a global scale. This did not cause supply shortages in the Netherlands because Sanquin was able to meet the demand." Maintaining adequate availability of immunoglobulins is very important. Many patients have to take immunoglobulins for long-term therapy; some even lifelong therapy. They are dependent on these products in order to function. Immunoglobulins are administered intravenously (through the vein). Tiebout: "We responded to this need with our Sanquin Home Service. People with an immune disease, for example, have the medications delivered to their homes. They learn how to administer the medications themselves or with the help of a nurse. They no longer need to go to the hospital for this. The illness thus affects their work and social lives to a much lesser degree."

International activities

Because the need for immunoglobulins is decisive for the quantity of plasma to be collected, there is a surplus of remaining protein from the plasma. After splitting the immunoglobulins from the blood plasma, residual product is left over. Tiebout: "Not using this product is not an option, either for the donor who was kind enough to help patients or for the organisation's efficiency." The medications that are in surplus in the Netherlands are offered on the international market. "This is our first international task," says Tiebout. "Our second international task involves contract manufacturing medications from foreign plasma for (bio)pharmaceutical organisations, among others, that also produce or sell plasma products. We are commissioned to manufacture the product. Our customers supply us with the plasma and then sell the medications." It is through all of these international activities that the Plasma Products division achieves the necessary scale to maintain efficient production in the Netherlands – and to play the important role in the Dutch health care sector that is expected of Sanquin.

Strict quality requirements

"Production for the international market is important for Sanquin in terms of another aspect as well. We manufacture for customers in various countries, including the US, Germany, France, Finland, Turkey and Indonesia. Therefore, we comply with many international quality requirements, meaning that we make very good, high-quality products. And that's a reassuring thought," concludes Robert Tiebout.

Sanquin stores white blood cells for Immunobank donors

Sanquin Blood Supply signed a cooperation agreement with Immunobank for the collection and storage of healthy white blood cells (lymphocytes) in December 2011.

Immunobank is an internationally operating Dutch company that conducts research in the area of immunology and human cells. Immunobank offers its customers the opportunity to have white blood cells collected for their own use at a later date. The idea behind this is that young people have a strong immune system. However, this strength decreases with advancing age. If the donor's immune system no longer functions correctly when they are older, then the frozen cells can be used for treatment. Sanquin has the knowledge, experience, equipment and people to extract cells from blood for the Immunobank donors as well as to freeze and store these cells.

White blood cells frozen and stored

The donors are first examined by their own doctor in accordance with Sanquin guidelines. They then come to Sanquin for an examination by the donor doctor and to give a blood sample. After they are accepted, blood is taken and the white blood cells are isolated through cytapheresis. This means that the donor receives the remaining blood back. The blood cells are frozen and stored by Sanquin.

Recognition for Sanquin

Sanquin is pleased with the recognition received from Immunobank for our expertise in extracting and processing blood cells according to the highest clinical standards. The remuneration received by Sanquin is used to facilitate research into new cellular therapy options. The first donors are expected to come in to give blood at Sanquin in Amsterdam in mid-2012.

The Magister and Cellbind combination travels around the globe

Sanquin Blood Supply's Reagents division develops, produces and sells blood group reagents and immunoreagents. Focusing on Magister and Cellbind, Sanquin has been crossing borders with renewed enthusiasm since 2011. By increasing the international market, Sanquin hopes to shape the growth strategy of Magister and Cellbind.

"We are very proud of Magister and Cellbind," says Paul Brockhoff, Marketing Manager of the Reagents division. "Our division makes a lot of products. Since 2011 the focus has been on the sale of the Magister and Cellbind combination. But in their wake, we also sell other products for blood group serology. To achieve growth through the sale of Magister and Cellbind, we had to go to Eastern Europe and Asia, because many Western European countries are already fully automated."

New markets

"This is why we primarily approach countries in which laboratories still work mostly with manual processes," continues Brockhoff. "Some promising countries for us are China, Italy and Hungary. Bulgaria and Turkey were added to this list in 2011. We also have contacts in the Czech Republic, Poland and South America. These are interesting markets for us. Many laboratories there will become automated sooner or later. And that's what we are capitalising on."

Catch-up effort in the Netherlands

Paul Brockhoff is enthusiastic about the new course that has been set in 2011. "We have to create more sales in order to shape the Magister and Cellbind growth strategy. It appears that we've made a good start. The focus is on foreign countries because a lot of things can still be automated there. In the future, there will be opportunities again in the Netherlands. For example, analysis equipment will have to be replaced in a few years. We were too late for the first round of automation, but we plan to play catch-up in the coming years."

Magister and Cellbind

Magister is a fully automated system for blood group serology. The system was designed for use in combination with Cellbind. Cellbind is a plastic card with six small columns with which you can determine someone's blood group and which antibodies are present in the blood. Cellbind cards have a barcode that allow you to record the correct results for the correct patient using software. All results are sent to special analysis software.

International market introduction of test kit for bone marrow cancer

Together with Siemens Healthcare Diagnostics, Sanquin Blood Supply developed new test kits to improve detection of a certain form of bone marrow cancer. The test kits were marketed in 2011, initially only in Europe, but interest in the product soon grew.

Sanquin Blood Supply's Reagents division produces the tests for Siemens. Siemens handles worldwide distribution and sales. Together they introduced the test kits in a number of European countries, including the Netherlands. These tests were in development for five years. During the final development stage, Sanquin worked together with the Clinical Chemical and Haematological Laboratory of the Jeroen Bosch Hospital in Den Bosch.

Presentation of the test kit

Project Manager Henk te Velthuis was involved in promoting the tests. "In May 2011, Siemens organised a special introduction session at a large international congress in Berlin. There, I gave a presentation on the test kits together with Dr Rein Hoedmakers, a clinical chemist who works at the Jeroen Bosch Hospital. Siemens provided the supporting informative material. In September 2011, I held a presentation at a webinar, a digital seminar. Two-hundred interested participants logged in to listen to my talk. We also promoted the tests in two articles in scientific publications."

Introduction in Europe

Working with Siemens, Te Velthuis presented the joint product in various countries. "There are big cultural differences between the various countries. This required an individual approach for each country. We took stock of which clinics are doing a lot of research into bone marrow cancer and also receive many patients. For reasons of comparison, we had these clinics perform our tests in addition to existing tests. To our delight, many clinics switched to our tests."

Worldwide interest

Interest quickly grew beyond the borders of Europe. Te Velthuis explains: "In Australia, a number of clinics are also using our tests. And we've begun registering test kits in China, Japan and the US. I don't see any problem in complying with the registration requirements. The next few years we'll focus on continued implementation of the test kits for bone marrow cancer in clinics in those countries."

Bone marrow cancer

The tests are intended for the bone marrow cancer called multiple myeloma, also known as Kahler's disease. The illness arises due to the uncontrolled growth of plasma cells, immune cells that produce antibodies (immunoglobulins). This uncontrolled growth causes loose particles of the immunoglobulins to be released into the blood – including the so-called free light chains. The disease affects mostly older people, and the number of patients is expected to increase due to the aging population. Bone marrow cancer is often paired with bone pain and sometimes with spontaneous bone fractures. Anaemia and decreased resistance to illnesses can also occur. The disease can sometimes be kept under control for years with the right treatment.

The tests

Sanquin Blood Supply's test kits consist of a number of individual vials with antibodies that are bonded to small latex globules. By mixing these latex globules with the patient's serum, the antibodies adhere to the free light chains in this serum. The tests are performed on Siemens analysis equipment. The new tests are more reliable and precise than existing tests at detecting the free light chains. Doctors can detect the illness faster and track its course better.

Who we are:

‘Trough good cooperation we were succesful in delivering a system that can be used by every division’

Report from the Executive Board

The intent of the Blood Supply Act is to ensure the quality, safety and availability of blood and blood products in the Netherlands. Sanquin has embraced this objective. Sanquin's mission statement reads as follows: The Foundation works on a not-for-profit basis to secure blood supply and to promote transfusion medicine in such a way as to meet the most stringent quality, safety and efficiency requirements. It provides products and services, conducts scientific research and offers education, training and continuing education.
Besides Sanquin's annual statement of accounts, prepared in accordance with the relevant statutory regulations, this report includes the consolidated financial results of CAF-cvba in Brussels and Sanquin Oy in Helsinki. The CAF is a Belgian plasma fractioning facility in which Sanquin has had a 50.01% interest since 2008. The Belgian Red Cross and the French LFB own the other 49.99% interest. Sanquin Oy is a small Finnish subsidiary that maintains contacts with our Finnish customers.

External contacts

- *Ministry of Health, Welfare and Sport*
In 2011 frequent meetings were held at the Ministry of Health, Welfare and Sport at both the ministerial and civil service levels. Important subjects discussed included the umbilical cord blood bank, Sanquin's role in the supply of blood in Bonaire, measures by Sanquin to make blood products safer and the results of research conducted by ConQuaestor on behalf of the Ministry of Health, Welfare and Sport into the efficiency of Sanquin's public section.

- *Ministry of Defence*
As in preceding years, Sanquin maintained contact with the Ministry of Defence about blood supply to the armed forces. In the negotiations, the central question was how to intensify cooperation between Sanquin and the Military Blood Bank. The Ministry of Defence decided to intensify cooperation in the area of research and the clinical consulting service.

- *European cooperation*
Sanquin is represented at the European Blood Alliance (EBA) and the International Plasma Fractionation Association (IPFA). Jeroen de Wit, Deputy Chair of Sanquin's Executive Board, chairs the Executive Board of the EBA. Sanquin's employees work with European colleagues in updating the Council of Europe's 'Guide to the preparation, use and quality assurance of blood components'.

- *Patient associations*
Sanquin maintains constructive contacts with a large number of patient associations. These are:

• National
- Stichting AfweerStoornissen
  - Nederlandse Vereniging van Hemofilie Patiënten
  - Vereniging Spierziekten Nederland
  - Patiënten vereniging voor Hereditair Angio Oedeem en Quincke's Oedeem
  - ITP (Idiotypische Trombocytopenische Purpera)
  - Patiëntenvereniging Nederland
  - Stichting Zeldzame Bloedziekten, Hematoslife, Stichting AA & PNH
  - Stichting StiKa (Ziekte van Kawasaki)
  - Nederlands Patiënten Consumenten Federatie

• International
  - Patient Association for Hereditary AngioEdema International
  - European Haemophilia Consortium
  - World Federation of Haemophilia
  - US HAE Association (HAEA)
  - Thalassaemia International Federation

- *Users of blood products*
At the regional level, there are user councils on which Sanquin and hospital representatives have a seat. Hospital representatives also have a seat on the National Users Council (Landelijke Gebruikersraad), which in 2011 again advised the Executive Board on logistics and services. Important discussion subjects included the following: Sanquin's intention to reorganise the blood bank, options to keep the CBO Blood Transfusion Guideline current, transfusions in nursing homes and assisted living complexes, alternatives to quarantine plasma for transfusions, and plasticisers in plastic blood bags.

Sanquin is represented in both the Nederlandse Vereniging van Hemofiliebehandelaars and the Interuniversitaire Werkgroep voor de Behandeling van Immuundeficiënties.

Overview of other positions held by members of the Executive Board

The overview below includes the most important other positions held by members of the Executive Board of Sanquin Blood Supply.

Dr T.J.F. Buunen (1949)

Main position:
- Chair of the Executive Board of Sanquin

Other positions:
- Treasurer of the Board of Stichting Medisch Centrum Slotervaart
- Chair of the Supervisory Board of Sanquin Oy in Helsinki (consolidated in Sanquin's annual accounts)
- Chair of the Executive Board of CAF in Brussels (consolidated in Sanquin's annual accounts)
- Board member of the International Plasmafractionation Association
- Delegated Supervisory Director of Euroclone b.v. in Amsterdam (consolidated in Sanquin's annual accounts)
- Director of Landsteiner Foundation for Blood Transfusion Research
- Treasurer of Stichting Joghem van Loghem
- Chair of the Supervisory Board of Bevolkingsonderzoek Midden-West
- Member of the Supervisory Board of Bioprimatencentrum

H.J.C. de Wit (1953)

Main position:
- Deputy Chair of the Executive Board of Sanquin

Other positions:
- Chair of the Executive Board of the European Blood Alliance
- Member of the Executive Board of the Committee of Experts on Blood Transfusion of the Council of Europe's EDQM (European Directorate on the Quality of Medicines)
- Board member of Stichting IDTM
- Board member of Stichting Tekke Huizinga Fonds
- Member of the Board of Directors of the American Blood Centers
- Member of a communication platform for medical advisors at Fresenius
- EMEA customer panel member at Caridian BCT

Prof. R.A.W. van Lier (1956)

Main position:
- Member of the Executive Board of Sanquin

Other positions:
- Professor of experimental immunology at AMC-UvA
- Board member of Stichting Immunovalley
- Chair of the Netherlands Society for Immunology
- Member of the Council of the 'International Union of Immunological Societies'
- Secretary of the Scientific Advisory Council of MS Research
- Member of Scientific Advisory Council of the Dutch Astma Fonds
- Member of Scientific Advisory Council of the Landsteiner Foundation for Blood Transfusion Research
- Member of Scientific and Medical Advisory Council of Immunobank NV

When accepting other positions, the Executive Board always asks permission of the Supervisory Board.

Report from the Supervisory Board

The Supervisory Board and the Executive Board are comprised of the following members:

Supervisory Board
In 2011 the Supervisory Board consisted of:
- J.H. Schraven, LLM (Chair)
- Prof. F.C. Breedveld
- Prof. B. Löwenberg
- J.C.M. Schönfeld (until October 2011)
- M. van Rijn

Mr Schönfeld's official retirement created an opening on the Board that could not be filled during the year under review. Mr Schönfeld was willing to stay on temporarily as an advisor to the Supervisory Board.

Executive Board
In 2011 the Executive Board consisted of:
- Dr T.J.F. Buunen (Chair)
- H.J.C. de Wit (Deputy Chair)
- Prof. R. A.W. van Lier, MD, PhD
- Secretary: H.M.H. de Bruijn-van Beek, LLM

Report from the Supervisory Board

The Board supervises the Executive Board's policies and the general course of affairs at Sanquin. The Supervisory Board also provides advice regarding Sanquin's strategy and activities and makes decisions about important proposals submitted by the Executive Board. In this annual report, the Board gives an account of its activities during 2011. The Sanquin Corporate Governance Code, adopted by the Board, contains rules and codes of conduct for good governance, effective supervision and clear accountability.

The Board met four times in 2011. In addition, the members of the Supervisory Board maintained individual contact with Sanquin managers and employees. The policy plan, the 2012 budget and the Medium-Term Plan were all discussed, as well as the financial reports, the annual report, the annual accounts and the auditor's report. The modification of the so-called "treasury statute" recommended by the Executive Board as well as a note regarding Sanquin's financial policy were approved. The Supervisory Board established that the budget submitted to the Ministry of Health, Welfare and Sport for 2012 had been approved by the Minister after some adjustments.

The Board took note of the results of the follow-up research initiated in 2010 by the Ministry of Health, Welfare and Sport and carried out by ConQuaestor regarding the Plexus benchmark, which had been initiated by the Ministry of Health, Welfare and Sport earlier in 2009 regarding the prices of perishable blood products within Europe. The new research investigated the long-term shelf life of the supply of plasma medications by Sanquin and the system of rates for deliveries between Sanquin's public and private sections.

The Board asked for information about the intention to reorganise the Blood Bank division, Sanquin's research policy, and the work being done by a new department within the Research division in the field of cultivating red blood cells. The Supervisory Board also addressed Sanquin's approach to external and internal communication. The Board learned of the measures Sanquin has taken to guarantee the quality of the blood supply.

The structure of the donor input organisation was changed in 2010. The Board is grateful to the members of the Regional Donor Councils and the National Donor Council as well as the various donor associations for their activities aimed at improving Sanquin's cooperation with donors. The Board greatly values the voluntary and selfless character of blood donations in the Netherlands and finds that donors are entitled to expect good, friendly service provision by Sanquin.

The fall meeting of the Supervisory Board was combined with a visit to CAF-cvba in Brussels, where, after presentations by representatives of the Ministry of Health, Welfare and Sport and Sanquin's French sister organisation EFS, the Supervisory Board and the Executive Board engaged in a joint brainstorming session about the future of blood supply and the development of Sanquin's market-aligned activities.

On 17 November, the Chair of the Supervisory Board spoke with the Works Council about the general course of affairs in the organisation.

The Supervisory Board corresponded with the Minister of Health, Welfare and Sport about the composition of the Supervisory Board and the remuneration of its members. Due to the partly market-aligned actitvities of Sanquin, a good balance needs to be found in this respect. Sanquin's plasma medicines activities are growing more extensive. The Supervisory Board is of the opinion that the competencies needed for managing an organisation in the farmaceutical industry have therefore become more important to the profile of the Board. The remuneration policy of the Supervisory Board is partly determined by this fact.

As can be gleaned from the overviews in other sections of this annual report, the Board's composition amply complied with the statutory requirements regarding professionalism and experience.

The Supervisory Board evaluated both its own operations as well as those of the Executive Board and established that its members are sufficiently independent. The decision-making procedure in the Supervisory Board is designed in such a way as to avoid any conflict of interest. Mr Schönfeld officially retired in October. The Supervisory Board sought candidates to succeed him, and will fill the position in the spring of 2012. Luckily, Mr Schönfeld was willing to act in the capacity of advisor to the Supervisory Board during the interim period. The Board owes Mr Schönfeld a debt of gratitude for the careful and expert way in which he fulfilled his duties for more than eight years.

The quality, safety and availability of blood products were made possible in 2011 thanks to the tremendous commitment and efforts of donors. The Supervisory Board is most grateful to them and to all Sanquin's employees for the manner in which they have achieved Sanquin's objectives.

Amsterdam, May 2012
Supervisory Board

Overview of other positions held by members of the Supervisory Board

The overview below includes the most important other positions held by members of the Supervisory Board of Sanquin Blood Supply.

J.H. van Schraven, LLM (1942),
Chair from May 2006, appointed in May 2006, due to retire in May 2014, not eligible for reappointment.
Main position:
- Supervisory Board Chair of Tata Steel Nederland B.V. and non-executive director of Tata Steel Limited (India)

Other positions:
- Chair of the Board of the Netherlands Standardisation Institute
- Member of the Board of the Carnegie Foundation
- Chair of the Board of the International Longevity Centre/Zorg voor Later
- Chair of the Board of SEO Economisch Onderzoek
- Chair of the Supervisory Boards of Stork B.V., NUON Energy B.V, and BNP Paribas OBAM N.V.

M.J. van Rijn (1956),
appointed in May 2008, due to retire in May 2012, eligible for re-appointment.
Main position:
- Chair of the Executive Committee PGGM

Other positions:
- Member of the Supervisory Board of Rijnland Zorggroep
- Member of Advisory Council of the Dutch Healthcare Authority
- Chair of the Supervisory Board of Cardea
- Chair of the Supervisory Board of Espira
- Member of the Board of Stichting Steun Alzheimercentrum
- Chair of the Board of De Groene Zaak

J.C.M. Schönfeld (1949),
appointed in October 2003, retired in October 2011.
Other positions:
- Member of the Supervisory Board of Arcadis N.V.
- Member of the Supervisory Board of Brunel International N.V.
- Member of the Supervisory Board of S&B Industrial Minerals S.A. Athens, Greece
- Member of the Supervisory Board of Delft University of Technology
- Member of Supervisory Board of the Royal Academy of Art (Hogeschool der Kunsten) in The Hague
- Board member of the Dutch Association of Listed Companies (Vereniging Effectenuitgevende Ondernemingen (VEUO)
- Member of AFM Committee on Financial Reporting

Prof. B. Löwenberg (1946),
appointed in May 2005, due to retire in May 2013, not eligible for reappointment.
Main position:
- Professor of Hematology at Erasmus MC Rotterdam

Other positions:
- Member of the Royal Netherlands Academy of Arts and Sciences (Koninklijke Nederlandse Academie van Wetenschappen (KNAW)
- Scientific Director of Skyline Diagnostics B.V.
- Member of the Netherlands Health Council
- Member of the International Scientific Advisory Council, Lund Strategic Center for Stem Cell Biology and Cell Therapy, Lund University, Sweden
- Member of the External Scientific Advisory Board Tumorzentrum Ludwig Heilmeyer-Comprehensive Cancer Center, Freiburg
- Member of the International Scientific Advisory Board, Department of Biomedicine, Basel University
- Deputy Chair of the Board and Chair of International Science Committee, European School of Hematology, Paris

Prof. F. C. Breedveld (1950),
appointed in September 2010, due to retire in September 2014, eligible for reappointment.
Main position:
- Chair of the Executive Board of Leids Universitair Medisch Centrum

Other positions:
- Chair of Stichting Curium
- Chair of Stichting Trombosedienst Leiden and environs
- Chair of Stichting Houdster van Aandelen Medipark B.V.
- Member of the Board of Stichting Leiden Bio Science Park
- Member of the General Board of Leids Universiteits Fonds
- Member of the Board of the Bontius Stichting
- Chair of the Supervisory Board of Stichting Ipse de Bruggen
- Member of the Supervisory Board of VeerStichting

Composition of advisory councils, the complaint committee and consultative groups

On 31 December 2011, the following advisory councils and consultative groups were active:

National Donor Council

This body advises the Executive Board in issues of donor policy.
Composition: Dr J.H.M. van Eijndhoven (Chair), P.F.A.M. Kolman-Backbier, J.H.W.J. Peeters, H. Seijkens, H. van der Meij, R. Heemskerk, A.M. Hagen, S. H. Kruithof, E.C.L.G. Zoetman-Hermans; also present at meetings: K. de Vogel, Dr W.L.A.M. de Kort, Unit Director of Sanquin Donor Issues and D.E. Loeff-Wolthuizen, Official Secretary.

Ethics Advisory Council (EAC)

This body advises the Executive Board in issues of medical ethics.
Composition: Prof. E. van Leeuwen (Chair), Dr M. Bins, Prof. H.F.P. Hillen, Prof. J.K.M. Gevers, Dr J. Over, Dr T.A.S. Tomson, A.J. Wilhelm, H.M.H. de Bruijn-van Beek (Secretary). Messrs Bins, Hillen and Van Leeuwen retired from the Council per 1 January 2012. As of this date, Prof. E. Briët and Prof. G. Widdershoven were appointed as new members.

Medical Advisory Council (MAC)

This body advises the Executive Board in issues of medical-pharmaceutical policy.
Composition: Prof. E. Briët (Chair), Dr F.J.M.L. Haas, Dr C.P. Henny, Dr J.H. Marcelis, Dr J. Over, Dr D. Overbosch, Prof. D.J. van Rhenen, Dr P.A.W. te Boekhorst, M. Tjoeng and E. Slot (Secretary).

Scientific Advisory Council (SAC)

This body advises the Executive Board in issues of scientific and scientific technology policy.
Composition: Prof. R. van Lier (Chair), Prof. A. Brand, Prof. D.E. Grobbée, Prof. R.R.P. de Vries, Prof. A.F. Cohen, Prof. D.J. van Rhenen, Prof. C.E. van der Schoot and J.W. Smeenk (Secretary).

National Complaint Committee

Handling of donor complaints takes place in two steps: at the blood bank division level and at the national level. Donors who are not satisfied with the complaint handling in the division can turn to the National Complaint Committee. The National Complaint Committee handles the complaints and advises the Executive Board.
Composition: Dr E.H. L. Vervuurt (Chair), Dr B. Kool, M. Brinksma, Dr P.C. van Krimpen (Advisor), H.M.H. de Bruijn-van Beek (Secretary). H. van der Mark retired.
Upon the recommendation of the National Donor Council, the following were appointed as a member or replacement member of the Committee as per 1 January 2012: S. Kruithof and P. Kolhuis-Backbier. Review the Annual Report of the National Complaint Committee.

National User Council

This body advises the Executive Board in issues of logistics and service provision in blood supply.
Composition: Dr A. Castel (Chair), Dr F.J.M. van der Meer (NVHB), Dr C.J. Pronk- Admiraal, Regional User Council (RUC Noord Holland), replacement is Dr J.H. Klinkspoor, opening (NVHP), replacement is M. Degenaar, Dr T. Bruin (RUC IJssellanden), replacement is Dr H.J.M. Salden, Dr R.C.R.M. Vossen (NVKC/VHL), replacement is Dr J. Slomp, Dr L. van Pampus, replacement is Dr J.W.J. van der Stappen (RUC Geldersche Rivieren), Dr N. Dors (NVK), Dr F. Hudig (RUC Leiden Haaglanden), replacement is Dr G.A.E. Ponjee, Dr A.W.M.M. Koopman-van Gemert (NVA), Dr K.M.K. de Vooght (RUC Midden Nederland), replacement is Dr C.M. Hackeng, Dr A.B. Mulder (RUC Noord Nederland), replacement is Dr H de Wit, (NVZ) opening, opening (NVvH), replacement is Dr J.Th.M. de Wolf, Dr M. van Hulst (NVZA), replacement is Dr P.D. Knoester, Dr J.W.P.H. Soons (de Meierij), replacement is Dr J.L.P. van Duijnhoven, Dr P.A.W. te Boekhorst (RUC ZWN Rijnmond/ West Brabant/Zeeland) replacement is Dr K. de Bruijn, Dr M.P.G. Leers (RUC Limburg), replacement is Dr Y.M.C. Henskens, Dr A. Leyte (WG Technology and Logistics), Prof. D.R. van Rhenen (representative of the Blood Bank division), replacement is J.P. Jansen van Galen, Dr M. de Haas (Sanquin Plasma Products, Research, Diagnostics), replacement is Dr J.J. Zwaginga, Dr T.J.F. Buunen (Chair of the Sanquin Executive Board), H.J.C. de Wit (Sanquin Executive Board), Prof. R.A.W. van Lier (Sanquin Executive Board).
Secretary: M. de Bruijn-van Beek (Sanquin Group staff)

Animal Experimentation Committee

This committee is responsible for the ethical testing of all animal experiments that Sanquin carries out in compliance with the Experiments on Animals Act. The composition of this committee is in compliance with this law.
The Animal Experimentation Committee (AEC) advises Sanquin's authorised license holder whether or not the intended animal experiments are acceptable. To this end, the AEC looks at the societal and scientific importance of the experiment in relation to the test animals' discomfort. The committee also investigates whether there are real alternatives and whether the involved researchers are sufficiently expert in their profession. The AEC consists of a minimum of seven members. They are all experts in the area of animal experimentation, alternatives to animal experimentation, animal protection and (bio)ethics. Sanquin submits all study protocols to a fully independent external AEC for review.

New guidelines for storage and transportation

Sanquin Blood Supply transports blood and blood products, hazardous materials and diagnostic samples over the road and through the air. This transport has to meet strict requirements. There were three important developments in this regard in 2011: the implementation of the Transport Guideline, the relocation of the central warehouse from Amsterdam to Lijnden and the 'Safe Sender' distinction for air freight. Additional training and continuing education for the warehouse and transport employees was an inextricable component of this.

In October 2010, the Executive Board enacted the Transport Guideline developed for Sanquin. The Guideline was implemented in 2011. In addition to moving blood and blood products to and from the regional locations and hospitals, Sanquin also transports diagnostic samples, chemicals and waste over the national highway system. All provisions and requirements for this are now stipulated in one document that describes the requirements that transport must fulfil per product. The document also contains packaging instructions for the departments that have the products transported.

Aware of the risks

As a part of the implementation of this national Guideline, the approximately 90 employees who are involved in transport activities are being given in-house 'customised training'. "In 2011 we started additional training," says Manager of QA/Safety, Occupational Health and the Environment (SOHE) Willem Sjardin and Edwin van Schie, senior SOHE employee. "This training consists of quality assurance, Good Manufacturing Practice (GMP), hygiene regulations and recognition of hazardous materials, among other things. In short: becoming aware of the transport of hazardous materials on the road. Knowing what you're transporting and what you need to do in the event of incidents and calamities."

Warehouse relocation to Lijnden

In 2011 the warehouse facilities of the head office on Plesmanlaan in Amsterdam moved to the new central warehouse in Lijnden, a few kilometres down the road. All deliveries to all locations are coordinated and carried out from this new location. This means that the hazardous materials are transported from and to the Plesmanlaan on public roads. There are strict regulations in place for transporting these kinds of materials. Willem Sjardin: "In 2011, our warehouse employees received in-house training so they could comply with these legal regulations."

Safe Sender

Air transport also complies with all the requirements. Tightening of the air freight safety requirements means that organisations that transport shipments (or have them transported) must comply with strict requirements. Edwin van Schie explains: "This is still a consequence of 9/11. The safety requirements in particular have been made much stricter. In 2011, we received the new official distinction 'Safe Sender' from the Royal Military Police." To this end, Sanquin hired Edwin van Schie as a safety advisor for air freight. Logistics and packaging employees of the air freight department were also given additional training. Stricter safety and access requirements were implemented for areas housing air freight.

The Guideline is compliant

Based on several audits conducted at the end of the year, an assessment was carried out as to whether Sanquin's transport movements comply with the Guideline and hence with the prevailing laws and regulations. "Despite a number of points of improvement, we can say that our transports are implemented according to the laws and regulations," both gentlemen state. "Where necessary, the Guideline will be optimised in 2012 and a number of national improvement activities will be proposed and implemented."

Successful implementation of Trackwise: quality information in one system

In December 2011, Sanquin Blood Supply launched the use of Trackwise. Trackwise is an electronic quality management system that has been tested by the pharmaceutical industry. Thanks to this product, Sanquin has fast, complete and continuous access to all of the necessary quality management system information.

Trackwise assists Sanquin with registering and tracking complaints, reported deviations in products or of stipulated operating procedures, audit and inspection findings and the controlled implementation of changes in employed operating procedures, materials and equipment. Sanquin purchased Trackwise because the Dutch government and foreign health inspectorates are increasingly stipulating strict requirements on the systematics and accessibility of this information.

Information always available

Project Leader Stephanie Ágoston explains: "We have to be able to show at any time that we comply with the applicable laws. In order to have the required information constantly available, we have to collect a lot of information about delivered blood products, medications and services. In the past, each division used its own system. This made retrieving information time-consuming, labour-intensive, error-prone and not uniform. Trackwise is a system that provides clarity in management reports and solid insight into the quality within the organisation. And at the higher management level you get integral insight into the quality performance of all the organisational units."

Tested by end users

Various end users within the organisation have comprehensively tested the system based on two prototypes. All the tests, including validation of the hardware, were successful. Ágoston: "In December 2011, the Plasma Products division started using Trackwise. The other organisational units started following gradually as of January 2012."

Organisation-wide project

Project Manager Ágoston is proud of how the project came about. "It is a cross-divisional project, and that is rather unique for Sanquin," she says. "Each Sanquin division has its own specialisation and tasks. Before the introduction of Trackwise, each division also had its own way of documenting quality registrations. This is now a thing of the past. The project team consists of representatives of all the Sanquin divisions. A uniform system has been developed with this team, which is a major feat because each division sets forth very specific requirements for a quality management system. Through good cooperation and discussion, we were extremely successful in delivering a system that can unequivocally be used by every division."

Blueprint for the Sanquin Blood Bank in the future

In 2011 Sanquin's major internal goal was to draw up and announce the strategic vision: tracking the course towards being the strong, reliable organisation that Sanquin Blood Supply envisions in 2015. Improving efficiency is a top priority. Division Director and Deputy Chair of the Executive Board Jeroen de Wit talks about the expected changes.

"In 2010 we underwent the Quartslag reorganisation, whereby four separate blood bank divisions of Sanquin Blood Supply were merged into one National Blood Bank. This showed us in which areas we could improve efficiency. Based on this insight, the management teams, together with various employee workgroups, debated how we could optimise our organisation. These plans were the first impetus for our strategic vision Blueprint 2015."

Blueprint 2015

"At the beginning of 2011 we were able to compare the various plans in order to have everything fit together. This resulted in Blueprint 2015 in the form that we presented to our people," says De Wit. "We used the second half of 2011 to further work out the changes and to link a timeline to these changes. This gave rise to the Spoorboek (Timetable) document, which stipulates exactly when every step in the change process will take place."

No European protection

The changes are necessary for improving and securing Sanquin's competitive position, not only in the Netherlands but on the European market as well. "In the Netherlands we are unique when it comes to collecting blood and plasma, which we then process and test in order to supply it to hospitals. We are therefore also protected in our uniqueness by Dutch legislation, but this legislation is evaluated every four years and can change. In terms of European legislation we are not protected."

Sanquin's competitive position

The pressure applied by the Ministry of Health, Welfare and Sport on the prices of Dutch blood products is increasing, especially for the perishable blood products. De Wit comments: "Now that things are going so well, we have to start arranging our organisation to be ready for this increasing pressure by 2015. This includes decreasing the costs of our perishable blood products. In 2011 we were still 7% more expensive than other, comparable European organisations."

Difficult changes for employees

The changes that will be taking place are good for the Blood Bank as a whole, but could be painful for employees. "I am well aware of this," says De Wit. "I myself experienced 2011 as an incredibly dynamic year. The earlier changes constructively led to an image of Sanquin in the future. But in 2011 it also became clear that this will have unpleasant personal consequences for many people. We are only doing this because we are convinced that the changes are necessary to ensuring Sanquin Blood Supply's long-term success in the future."

Strategic additional training for managers

In November 2011, the Human Resources Development (HRD) department launched the pilot Management Course II (MC II) for 20 managers who report directly to executive management. This is a practice-oriented development training programme stemming from Sanquin Blood Supply's strategy.

"This group of managers likes to keep in line with the organisation's development. The course brings the organisational objectives and the personal objectives closer together. It's an important investment in our employees," says Anouk Wagenaar, head of HRD. MC II is the successor of ML I from 2006. This was a basic course for managers from all levels of the organisation that examined the managers' basic skills: guiding, coaching, motivating and teambuilding.

Entrepreneurship and daring

"There was a need for follow-up training," continues Wagenaar. "Based on the expectations that Sanquin has of its managers, the practical course MC II is linked to the strategy for 2012-2016. Sanquin would like to see more entrepreneurial spirit and daring to take things on. The extent to which this is necessary differs by division."

The Management Course II

Based on a questionnaire, the participating managers scored themselves according to a goal profile. Then they formulated a practical assignment and discussed their development points with their manager and an HRM advisor. The managers also completed four modules that have been set up by the Executive Board: efficiency and quality, customer orientation, synergy and innovation. "The material learned in the modules can be applied to the practical assignment," explains Anouk. "During intervision meetings, the participants discuss the problems they encounter in their everyday work." At the end of the course the participants present the results of the practical assignment.

Be daring

"'Be daring' is a fairly recent term for Sanquin, which most of the course participants have incorporated into their individual goal profiles," says Wagenaar. "It is extraordinary that they've pointed out a greater need for this. Sanquin really needs this energy and initiative in order to continue to fulfil its mission. The managers' personal ambition thus ties in with Sanquin's strategy. Under the leadership of these enthusiastic managers, the entire organisation is moving in the right direction."

Ambition to grow

"MC II is still a pilot. The 2012 evaluation will show the course's added value for participants and the organisation. Based on the results, we will determine whether the course will become a standard part of our course offering and whether we will expand it to the entire organisation," says Wagenaar. "I think it's important that this course was set up based on the strategy. Managing is not a goal in and of itself in this course. Rather, the focus is on implementing the organisation's strategy. Sanquin helps MC II participants further develop their talents and ambition. And that's in everyone's interest."

Social Annual Report

Workforce as of 31 Dec. 2011 (number of employees and number of FTE*)															
		permanent employment				temporary employment				total 1				total 2	
		full-time		part-time		full-time		part-time		full-time		part-time			
		number	FTE	number	FTE	number	FTE	number	FTE	number	FTE	number	FTE	number	FTE
2011	male	653	657.45	186	117.18	115	115.12	51	16.42	768	772.57	237	133.60	1005	906.17
2010	male	626	630.95	177	106.60	115	115.90	43	10.00	741	746.85	220	116.60	961	863.45
2011	female	350	350.79	1356	777.97	97	97.11	139	63.19	447	447.90	1495	841.16	1942	1289.06
2010	female	349	349.94	1346	754.22	88	88.28	193	89.45	437	438.22	1539	843.67	1976	1281.89
2011	**total**	**1003**	**1008.24**	**1542**	**895.15**	**212**	**212.23**	**190**	**79.61**	**1215**	**1220.47**	**1732**	**974.76**	**2947**	**2195.23**
2010	**total**	**975**	**980.89**	**1523**	**860.82**	**203**	**204.18**	**236**	**99.45**	**1178**	**1185.07**	**1759**	**960.27**	**2937**	**2145.34**

* Excluding hiring and extra deployment of sanquin's own employees.

In 2011 sanquin had no employees with a wao benefit (7 in 2010). Sanquin had 3 people on reduced pay in 2013.

Years of service structure 2011 (number of employees)				
	male	female	**total 2011**	total 2010
< 1	187	221	**408**	458
2-3	146	220	**366**	342
4-5	61	129	**190**	153
6-9	153	327	**480**	572
10-14	153	367	**520**	434
15-19	88	208	**296**	339
20-24	89	199	**288**	279
25-29	49	130	**179**	152
30-34	61	103	**164**	157
35 and over	18	38	**56**	51
total	**1005**	**1942**	**2947**	**2937**

The average employment duration of Sanquin's employees amounted to 12.0 years of service (11.65 in 2010).

Staff turnover; those leaving service in 2011 (number of employees)		
	total 2011	total 2010
career elsewhere	**73**	81
personal circumstances	**21**	24
working conditions	**2**	2
unfitness	**2**	0
unauthorised absence	**0**	0
urgent reason	**1**	2
reorganisation	**0**	6
obu / flex / TOP / pension	**37**	40
termination of temporary employment	**83**	67
occupational disability	**4**	3
death	**3**	4
other*	**33**	34
total	**259**	**263**

* This concerns, for example, transfers within Sanquin and dismissals during the trial period.

In 2011 the staff turnover rate dropped from 9% to 8.8%. The most important reason for leaving Sanquin was a career elsewhere. In addition, termination of temporary employment, personal circumstances and (early) pension were important reasons for leaving the organisation in 2011.
As in 2010, it was generally easy to fill vacancies in 2011. At the end of 2011, there were 27 vacancies that had not yet been filled, the same number as in 2010.

Social Annual Report

Sickness absence percentages, including and excluding maternity/ parental leave					
	male	**female**		**total**	
		incl.	excl.	incl.	excl.
2011	3.74	5.57	4.85	4.96	4.70
2010	3.60	5.57	4.71	4.94	4.39

The sickness absence rate (excluding maternity/parental leave) increased slightly from 4.39% in 2010 to 4.7% in 2011. Just like in 2009 and 2010, the absence rate was lower than in the entire health care sector (5.29%). In contrast to 2009 and 2010, the absence rate was higher than the hospital sector (4.51%).

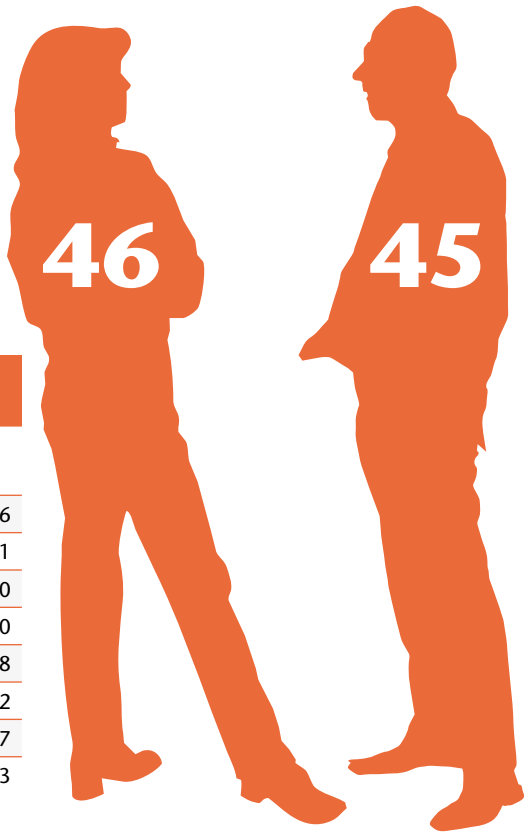
Comparison (2011)					
	male	**female**		**total**	
		incl.	excl.	incl.	excl.
health care sector	4.22	7.24	5.57	6.62	5.29
hospital sector	3.62	6.54	4.78	5.86	4.51

Duration of absence, including and excluding maternity/parental leave (in days)					
	male	**female**		**total**	
		incl.	excl.	incl.	excl.
2011	15.01	16.23	14.28	15.85	14.51
2010	14.88	15.62	13.80	15.53	14.14

Frequency of absence, including and excluding maternity/parental leave (number of reports)					
	male	**female**		**total**	
		incl.	excl.	incl.	excl.
2011	1.53	2.35	2.34	2.02	2.01
2010	1.32	1.50	1.49	1.50	1.49

Duration of absence, including maternity/parental leave (in days)

Average age
Sanquin employees



Age structure in 2011 (number of employees)	male	female	**total 2011**	total 2010
0-24	30	40	**70**	86
25-34	206	317	**523**	541
35-44	268	485	**753**	760
45-54	312	659	**971**	960
55-59	117	296	**413**	388
60 and older	72	145	**217**	202
total	**1005**	**1942**	**2947**	2937
average age	44.91	45.62	**45.37**	44.63

Salary scale breakdown 2011	**young workers pay scale**		**preliminary pay scale**		**graded pay scale**		**total**
	male	female	male	female	male	female	
5							
10							
15						1	1
20					6	18	24
25			2		72	52	126
30			1	2	49	237	289
35				2	116	687	805
40					133	152	285
45			4	9	139	250	402
50					88	147	235
55			1		87	71	159
60					112	116	228
65			1		41	27	69
70				1	23	10	34
75					12	16	28
80					8	1	9
other*					110	143	253
total			**9**	**14**	**996**	**1928**	**2947**

* Concerns employees who receive a nominal salary; employees who are subject to a different salary scale system under the 'transitional regulations for the Collective Agreement of Sanquin 2001'; and trainee research assistants who are subject to the salary system of the UMCs.

Facts and figures:

'In 2011 Sanquin was once again able to supply all hospitals with sufficient safe blood products'

Key figures of the Dutch blood supply

In 2011 Sanquin was once again able to supply all hospitals with sufficient safe blood products. These key figures show that the use of blood products has decreased again. This is in part due to the efforts of Sanquin's Clinical Consultative Service, which advises hospitals how to handle blood products more efficiently, thereby helping decrease the use of blood. The donation frequency remained the same: Sanquin does not need to call upon donors more often in order to keep up the blood supply.

Key figures of the Dutch blood supply			
Donor base	**2011**	**2010**	**2009**
Number of registered donors	398,379	406,127	404,184
Number of recorded donors*	389,350	395,226	393,811
Donation frequency of whole blood donors per year	1.63	1.63	1.7
Donation frequency of plasmapheresis donors per year	5.88	5.53	5.34
Number of donors per 1,000 inhabitants	23.3	24.4	23.7
*Excluding donors who are registered but who have not yet donated			
Number of donations			
Total number of donations	885,836	883,346	906,767
Number of whole blood donations	538,282	542,160	575,050
Number of apheresis donations	347,554	341,186	331,717
Use			
Use of red blood cell concentrates	544,324	548,105	564,290
Number of platelets (from whole blood in donor units)	290,623	281,476	246,768
Number of units of fresh frozen plasma	89,631	81,742	90,390
Kilo of plasma in total (incl, of apheresis) supplied to Plasma Products division	347,044	348,369	342,995
Proportion of donors and supply of red blood cells			
Whole blood donors	329,283	333,439	331,738
Erythrocytes supplied	544,324	548,105	564,290

In recent years, the use of erythrocytes in hospitals has dropped sharply. Together with the hospitals we managed to improve the level of care and realise a smaller number of transfusions. More than ever before, transfusions are life-saving. Sanquin has adjusted the number of donations in line with this trend and calls donors only if necessary. During processing, whole blood donations are separated into various components. Therefore, the figures concerning use may be higher than the number of donations.

Percentage O negative in population. donors and red blood cells supplied		
	2010	**2011**
In population	7.65%	7.65%
Among donors	11.49%	11.53%
Red blood cells supplied	13.50%	13.48%

Whole blood logistics (all figures in donor units)	
Whole blood donations	538.282
Red blood cells to hospital	544.324

Whole-blood donors per blood group 2011								
	North East	**South East**	**South West**	**North West**	**Grand Total**	**In %**	**Compared to 2010 (=100)**	
O +	29,242	29,173	30,926	31,475	120,816	36.69%	123,041	98
O -	9,593	8,655	9,654	10,062	37,964	11.53%	38,321	99
A +	25,423	26,062	26,326	27,338	105,149	31.93%	105,971	99
A -	6,012	6,082	6,264	6,549	24,907	7.56%	25,561	97
B +	4,934	5,543	6,689	6,050	23.216	7.05%	23,585	98
B -	1,500	1,324	1,642	1,513	5,979	1.82%	5,740	104
AB +	1,861	2,134	2,647	2,342	8,984	2.73%	8,921	101
AB -	558	510	588	612	2,268	0.69%	2,299	99
	79,123	**79,483**	**84,736**	**85,941**	**329,283**	**100.00%**	**333,439**	**99**

Overview of donors with a positive result from the testing for infections

Every donation is tested. In general, infections occur more frequently in donors giving blood for the first time. Naturally, the blood products of donors with an infection are destroyed.

Hepatitis B				
	Donors New	New (per 100,000)	Donors Known	Known (per 100.000)
2011	13	33	7	1.6
2010	18	40	2	0.6
2009	21	45	13	3.2
2008	16	56	4	1.1
2007	15	55	4	1.1
2006	21	66	5	1.2
2005	26	87	9	2.1

Lues				
	Donors New	New (per 100,000)	Donors Known	Known (per 100.000)
2011	10	23	5	2
2010	11	24	4	1.1
2009	8	17	8	1.9
2008	11	39	8	2.2
2007	9	33	15	4
2006	13	41	10	2.5
2005	17	57	29	6.6

HIV-1/2				
	Donors New	New (per 100.000)	Donors Known	Known (per 100.000)
2011	1	2.5	0	0
2010	0	0	1	0.3
2009	0	0	2	0.5
2008	3	10.5	0	0
2007	3	11	3	0.8
2006	1	3.1	4	1
2005	1	3.3	2	0.5

Hepatitis C				
	Donors New	New (per 100.000)	Donors Known	Known (per 100.000)
2011	7	17.9	0	0.3
2010	6	13	0	0.0
2009	10	21	0	0.0
2008	4	14	0	0.0
2007	3	11	1	0.3
2006	5	16	5	1.2
2005	10	33	1	0.2

HTLV-I/II				
	Donors New	New (per 100.000)	Donors Known	Known (per 100.000)
2011	3	7.7	0	0
2010	2	4.0	1	0.3
2009	2	4.0	0	0
2008	0	0.0	1	0.3
2007	0	0.0	1	0.3
2006	0	0.0	0	0
2005	1	3.3	0	0

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Financial results and financial position

Operating income

The total operating income increased by EUR 20.3 million to EUR 399.6 million (+5%) in 2011. The most important developments in relation to the operating income can be summarised as follows:

- There was an increase in turnover at the Blood Bank of EUR 4.1 million (+3%). With sales of short shelf-life blood products to hospitals remaining virtually the same, this increase was mainly due to an increase in prices by 3.2%.
- The supply of plasma products resulted in an increase in turnover of EUR 16.2 million (+10%). This increase was mainly the result of production of Cinryze™ for the US market.
- The turnover from diagnostic services for blood samples from Dutch healthcare institutions grew by EUR 1.3 million (+7%) in 2011 because of an expansion of services combined with a regular increase of the rates.
- Research saw an increase in turnover from external subsidy income and contract research of EUR 1.4 million (+16%). Continued attention to external funding is required in order to ensure structural financing of a research programme adequate for the organisation.
- The turnover of Reagents increased by EUR 1.2 million (+14%) in 2011.
- The other operating income showed an increase of EUR 5.1 million. This increase was mainly due to the cancellation of a repayment obligation on a loan.

Operating costs

Operating costs rose by EUR 29.5 million in 2011, to EUR 378.6 million (+8%). The most important reasons for this were:

- The costs of 'Raw materials and consumables' rose by EUR 7.4 million (+8%), mainly because of increased production of plasma products and the price increases implemented from 2010 for the purchase of Dutch plasma.
- The costs for wages, salaries, social charges and pension contributions increased by EUR 9.6 million (+7%) in 2011. The most important cause was the growth in the workforce (+4%) in line with the increase in activities. Salaries were increased in accordance with the Sanquin CLA 2009-2011 and social charges and pension contributions also increased (+3%).
- Depreciation on property, plant and equipment rose by EUR 1.9 million (+9%), primarily as the result of extra depreciation on a business premises, the expected life span of which was decreased.
- Other operating costs increased by EUR 10.7 million (+11%). The most important reason for this was the formation of a provision for the costs of reorganising the blood bank activities.

Result

Operating costs increased faster than operating income in 2011, mainly because a provision was formed in 2011 for the reorganisation costs of the blood bank activities.
The operating result consequently fell to EUR 21.0 million (-/-31%).
On balance, interest income of EUR 0.4 million was realised in 2011 (2010: interest charges of EUR 0.1 million).
The item 'Tax' had a negative effect on the result of EUR 0.6 million in 2011. In 2010 a tax charge of EUR 1.0 million was reported.
The share of third-parties of -/- EUR 0.7 million is included to correct Sanquin's consolidated result, which includes CAF for 100%, for the minority interest in CAF that is not owned by Sanquin.
The operating result, combined with the financial income and charges and taxes mentioned above, result on balance in a net result of EUR 20.1 million, compared to EUR 29.3 million in 2010.

The specification of the increase in the result from ordinary business activities before tax is as follows:

(* EUR 1,000)		
Increase in total operating income		**20,273**
Increase in raw materials and consumables	-/- 7,388	
Increase in salaries and social charges	-/-9,626	
Increase in depreciation costs	-/-1,854	
Increase in other operating costs	-/-10,679	
Increase in total operating costs		**-/-29,547**
Decrease in operating result		**-/-9,274**

Financial position

The Foundation's liquidity decreased in 2011. On the one hand there were positive results, on the other a great deal of liquidity was needed to finance investments and expand the working capital.

Sanquin's working capital can be specified as follows:

(* EUR 1,000)	31-12-2011	31-12-2010
Liquid assets	76,044	88,256
Short-term receivables	66,525	65,232
Stocks	119,485	104,859
Current liabilities	-/-69,090	-/-69,995
Working capital	**192,964**	**188,352**

The Foundation's working capital increased by EUR 4.6 million to EUR 193.0 million, in particular as a result of the increase in the activities of the Plasma Products division.

Investments in property, plant and equipment are preferably financed with resources available to the Foundation for the long term. The specification below shows that this was achieved:

(* EUR 1,000)	31-12-2011	31-12-2010
Property, plant and equipment	157,348	133,749
Financing with long-term resources	350,312	322,101

The financing with long-term resources can be specified as follows:

(* EUR 1,000)	31-12-2011	31-12-2010
Group equity	301,584	281,594
Provisions	18,814	9,953
Long-term liabilities	29,914	30,554
Financing with long-term resources	**350,312**	**322,101**

It can be concluded from the balance sheet that Sanquin's solvency (Group equity / Total assets) remained stable at 72% compared to 2010, despite the high investment level.

Consolidated balance sheet as at 31 December 2011

(prior to profit appropriation)

			31 december 2011		31 december 2010
(* EUR 1,000)	Ref.	EUR	EUR	EUR	EUR
Assets					
Fixed assets					
Tangible fixed assets	5	157,348		133,749	
Financial fixed assets	6	0		0	
			157,348		**133,749**
Current assets					
Stocks	7	119,485		104,859	
Receivables	8	66,525		65,232	
Liquid assets	9	76,044		88,256	
			262,054		**258,347**
			419,402		**392,096**
Liabilities					
Group capital					
Equity	10	282,920		262,834	
Share of third parties	11	18,664		18,760	
			301,584		**281,594**
Provisions	12		18,814		9,953
Long-term debt	13		29,914		30,554
Short-term debt	14		69,090		69,995
			419,402		**392,096**

Consolidated profit and loss account for 2011

			31 december 2011		31 december 2010
(* EUR 1,000)	Ref.	EUR	EUR	EUR	EUR
Net turnover	16	381,177		356,971	
Changes in stocks of finished products and work in progress		7,265		16,300	
Other operating income		11,134		6,032	
Total operating income			**399,576**		**379,303**
Costs of raw materials and consumables		100,114		92,726	
Wages and salaries	17	119,582		111,654	
Social security charges incl, pension	17	25,138		23,440	
Depreciation of tangible fixed assets	21	21,857		20,003	
Other Operating expenses	22	111,888		101,209	
Total operating expenses			**378,579**		**349,032**
Operating result			**20,997**		**30,271**
Proceeds from tangible fixed asets	24		0		1,373
Proceeds from financial fixed assets	24		0		133
Interest income	24		3,714		3,161
Interest expenses	24		-3,302		-3,291
Result from ordinary business operations before taxes			**21,409**		**31,647**
Taxes on result from ordinary business operations	26		-604		-966
Share of third parties			-719		-1,365
Result after taxes			**20,086**		**29,316**

2011 Annual Report National Donor Complaint Committee

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1. General

An accessible system for lodging and processing complaints is of great social importance. Organisations' clients benefit from this by having their grievances or suggestions for improvement heard. And organisations themselves benefit because complaints can be considered signals for quality improvement. In the health care sector, this thought has been formalised in the Health Care Complaints Act (Wet klachtrecht cliënten zorginstellingen, WKCZ), which took effect on 1 August 1995. Although blood banks do not fall within the scope of this law, Sanquin has implemented a similar complaint procedure for the donors of blood and/or plasma, adapted to the blood banks' organisational structure.

1.1 Basic principles of the complaint procedure

The complaint procedure for donors is based on the following principles:

- When possible, the complaint will be handled where it originated: with the blood bank;
- The complainants can be both (potential) donors and their representatives as well as professionals who have functional contacts with the blood bank;
- If the blood bank is not able to resolve the complaint to the complainant's satisfaction, then the complaint can be submitted to the National Complaint Committee;
- Both sides of the argument will be heard;
- The complainant will receive a written notification on the processing of the complaint; if the complainant so wishes or the Committee deems it necessary, the complainant can be heard;
- If the Committee deems it necessary, it can advise the Sanquin Executive Board on further actions.

1.2 Practice

In principle, only complaints which were initially lodged with the blood bank and were handled by them will be considered for further processing by the National Complaint Committee. However, in certain cases, the National Complaint Committee also considers complaints at first instance in order to save the donors' time. This usually concerns complaints regarding general policy.
Whenever necessary, the expertise of Sanquin's medical secretary is called upon to provide further clarification on the content of the Guidelines.

2. Composition of the National Complaint Committee

In 2011, the Complaint Committee consisted of the following members:
E.H.L. Vervuurt, Chair as from June 2009, due to retire in January 2015, not eligible for reappointment
M. Brinksma, due to retire in June 2013, eligible for reappointment
Dr. G.A. Kool, due to retire on 1 January 2012, eligible for reappointment
H. van der Mark, due to retire in November 2011
Dr. P.C. van Krimpen, Additional Advisor
H.M.H. de Bruijn-van Beek, Advisor and Official Secretary
During its November meeting, the Committee said a grateful farewell to Mr. Van der Mark, who had been appointed to the Committee at the recommendation of the National Donor Council (NDC). The Executive Board decided to appoint Mr. S. Kruithof as Mr. Van der Mark's successor per 1 January 2012 at the recommendation of the NDC. Upon the request of the NDC, the rules were revised to allow for the appointment of an alternate member for the member, appointed at the recommendation of the NDC. Ms. P. Kolman-Backbier was appointed by the Executive Board as an alternate member per 1 January at the recommendation of the NDC.

3. Activities of the National Complaint Committee

The Committee met once in 2011, on 10 November. Sometimes the Chair of the Committee and the Secretary discussed the written handling of a complaint. A total of two complaints were submitted to the Committee. These complaints and the draft replies were duly submitted in writing to the Committee members and resolved.

3.1 Complaints

Executive Board salary and Sanquin transparency

The complainant did not agree with the payment of, in his view, commercial salaries to the Executive Board because he believed this to be in conflict with the voluntary nature of donorship. The Committee indicated that it considered it reasonable for professionals such as the members of the Executive Board to be adequately compensated for their duties, and that it did not wish to override the authority of the Supervisory Board to determine reasonable remuneration. Furthermore, the Committee indicated that the reasons why donors donate blood without remuneration are based on motives that have nothing to do with cost saving or profit maximisation for Sanquin and therefore (can) have no correlation with the remuneration of Sanquin's Executive Board.
With regard to Sanquin's transparency, the Committee ascertained that the figures of the salaries have been listed in the annual report since Sanquin was founded and that the annual report has been published on Sanquin's website since its launch. The Supervisory Board's policy is stated in the Supervisory Board's annual report, which is also included in the annual report. Figures regarding the salary of the Executive Board member appointed in 2010 can be found in the letter from the Minister of Health, Welfare and Sport to the Dutch House of Representatives dated 9 April 2011.
The Committee concluded that it could not endorse the complaint regarding Sanquin's transparency on this point.

Blood collection by assistant with head scarf

The complainant lodged a complaint regarding the fact that the blood bank rejected him as a donor as he did not wish his blood to be collected by an employee wearing a head scarf. He indicated being against such blood collection based on his religious conviction. The

Committee duly took note of the complaint, and also of the report by the Team Manager of Donor Issues on her phone conversation with the donor.
Referring to the pronouncements of the Equal Treatment Commission, the Committee considered that an employer such as Sanquin cannot prohibit an employee from dressing as a Muslim without particular reasons. The Committee could not perceive any such particular reasons for Sanquin to prohibit its employees from wearing head scarves. The Committee took note of the fact that Sanquin does not wish to prohibit its donor assistants from wearing head scarves, and of the fact that Sanquin also does not wish to ask donor assistants who wear head scarves not to collect blood or plasma from donors who do not wish them to do so. The Committee believes that Sanquin is justified in its decision not to differentiate between employees with and without head scarves. The Committee declared the complaint to be unfounded.

3.2 Overview of 2010 complaints

The Committee took note of the number and nature of complaints that were submitted by the regional complaint coordinators in 2010.

3.3 Manner of complaint resolution by the regional complaint coordinators

Ms. C. Puylaert, Manager of Donor Issues in the regions South East and North East, provided the Committee with the requested explanation regarding the manner in which the regional complaint coordinators resolve complaints. The Committee ascertained that the complaint resolution process seems to be running so smoothly that few donors feel the need to submit their complaint to the Committee.

3.4 Evaluation of the functioning of the National Donor Complaint Committee

The Committee took note of the memo "Findings of the NDC Complaint Handling Committee", which consists of two sections: evaluation of the existing situation and a proposal for improvement.
The Committee advised the Executive Board on the memo's findings. As a result of the memo and the Committee's advice, the website was improved regarding the information on the manner in which a complaint is resolved. At the Committee's recommendation, the Executive Board decided to incorporate the annual report of the National Donor Complaint Committee into Sanquin's annual report from now on.

3.5 State of affairs regarding the complaint about Executive Board salaries

The Committee took note of the number of complaints regarding the Executive Board salaries (1,320 for the entire reporting year).

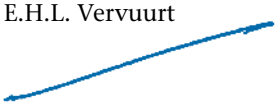
3.6 Evaluation of the donor travel expenses regulation

The Committee obtained information about the number of donors who make use of the travel expenses regulation. It concluded that usage is limited but that a slight increase can be seen throughout the country. In 2009: 2,800 donors; in 2010: 3,100 donors; in 2011: 2,500 donors (up to and including October).

March 2012,

Chair

E.H.L. Vervuurt



Secretary

H.M.H. de Bruijn-van Beek

Credits

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The Sanquin Blood Supply Foundation upholds the fundamental principles of the International Red Cross.