

Quality

report **2017**



*"Quality is always
top of mind when meeting
our patients"*

KARIN KRISTRÖM, VETERINARIAN ANICURA DJURSJUKHUSET ALBANO, SWEDEN



"Through AniCura, we gained knowledge and support to improve patient safety at our clinic"

FLOOR STEMBERT, PRACTICE MANAGER AT DIER MEDISCH CENTRUM KENNEMERLAND, PART OF ANICURA, THE NETHERLANDS

CONTENT



ENSURING WISER ANTIMICROBIAL USE

AniCura's use of antibiotics was lower in 2017 than 2016, but there is still a large spread between clinics and countries.

IMPROVING PROFESSIONAL COMMUNICATION SKILLS

The quality of interpersonal communication has an impact on both patient outcomes and customer satisfaction.

CUSTOMER SATISFACTION
Customer satisfaction is highly dependent upon the perception of quality. More than 20 000 customers took part in AniCura's customer satisfaction survey.



SURGICAL SITE

Infections and the use of antibiotics in surgery were analysed among 1 000 dogs that underwent surgery at clinics across Europe.

ENCOURAGING PROFESSIONAL DEVELOPMENT AND SPECIALISATION
In 2017, AniCura launched a new companywide education and training program called AniCura Continuing Education (ACE).

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"As a leading provider of specialised veterinary care in Europe, we have great opportunities but also a responsibility to develop the quality of veterinary medicine"

PETER DAHLBERG, CEO

QUALITY as our first priority

AniCura was founded in 2011 with a clear vision of shaping the future of veterinary care, together. This vision is about providing the highest quality of care available and create a sustainable improvement in the quality of life for companion animals throughout Europe.

AniCura is a values-driven organisation where motivation and engagement among employees is high, and the quality agenda is widely spread across the company. The 200 animal hospitals that form part of AniCura have been carefully selected based on their level of expertise and ambition to further develop medical quality. The quality initiatives that are currently ongoing at our clinics, and the engagement for these topics among our 4 000 employees, is truly amazing.

A GREAT RESPONSIBILITY

Being a leading provider of specialised veterinary care in Europe, we have a great responsibility to further accelerate the development of veterinary medicine. In 2015, we launched QualiCura, a

program for systematic quality development, covering the most critical aspects of medical quality and patient safety.

2017 IS THE THIRD YEAR WITH QUALICURA, AND WE CAN NOW SEE HOW IT LEADS TO TANGIBLE IMPROVEMENTS AT OUR CLINICS

The program is a support to AniCura's clinics, and is together with our initiatives unique within the veterinary industry.

2017 is the third year with QualiCura, and we can now see how it leads to tangible improvements at AniCura's clinics. Through our studies and surveys, we are gaining the necessary data and knowledge that is a prerequisite for

systematic, long-term quality development across the company.

TRANSPARENCY AND INSPIRATION

In this report, we describe our developments and how we work to improve medical quality. We present data and results from our efforts within infection control, the use of antibiotics, customer communication, incident handling and more. For 2017, we have also included data around how our most important stakeholders, our customers and employees, perceive AniCura and our work around quality.

The purpose of this report is to ensure transparency around our operations, highlight the benefits of close collaboration between clinics, and to inspire the entire veterinary industry to develop medical quality and patient safety.

My hope is that this report provides inspiration to all readers.

PETER DAHLBERG
Chief Executive Officer, CEO

The quality year in brief



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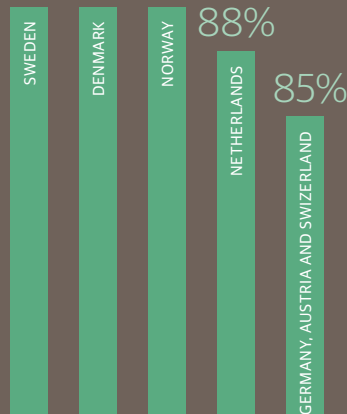
SOURCE: ANICURA CUSTOMER SURVEY 2017



24 000
patient records reviewed to enhance quality

We asked AniCura employees:
"Do you think the patients visiting your clinic receive veterinary care of high quality?"

92%



SOURCE: ANICURA EMPLOYEE SURVEY 2017

4 industry unique quality studies QualiCura

- 6% INFECTION RATE AT SURGERIES
- 13% OF PATIENTS RECEIVED ANTIBIOTICS
- 7,6 ML HAND SANITISER USED PER DAY AND PATIENT
- 50% OF CLINICS DO REGULAR CONTROL CHECKS ON LABORATORY AND IMAGING EQUIPMENT



600
employees in professional communications trainings

AniCura in brief

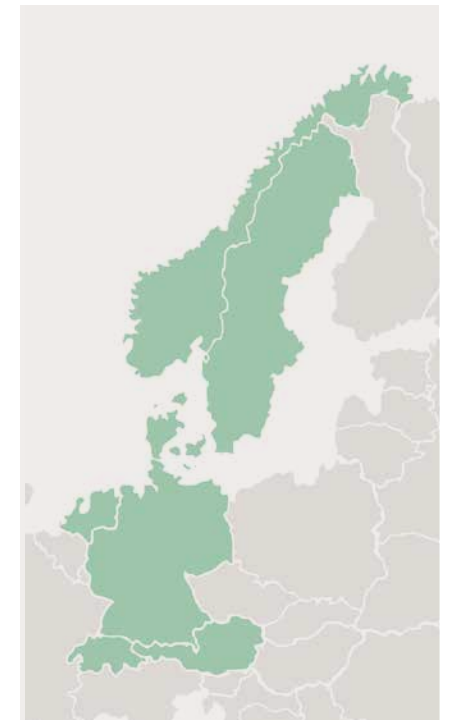
One of Europe's leading providers of high-quality veterinary care for companion animals.

AniCura is a family of well-known animal hospitals and clinics specialised in veterinary care for companion animals. Born out of the idea that sharing resources creates opportunities for better veterinary care, AniCura was established in 2011 as the first merger of companion animal hospitals in the Nordic region. Today, AniCura is a role model within specialised veterinary care and a valued partner for pet owners and referring veterinarians across Europe.

FOCUS ON MEDICAL QUALITY
AniCura's ambition is to provide the

highest medical quality available. Clinics that form part of AniCura have all been carefully selected based on their level of expertise and ambition to develop medical quality. In 2015, a companywide program for medical quality development, QualiCura, was launched to support clinics in their development efforts. The same year, AniCura Research Fund was founded to financially support clinical research.

- 2 MILLION PATIENT VISITS
- 4 000 EMPLOYEES
- 1 200 VETERINARIANS
- 7 COUNTRIES
- 200 ANIMAL HOSPITALS AND CLINICS



VISION:
We shape the future of veterinary care, together

SHARED resources for quality development

Medical quality development through knowledge sharing and shared resources makes AniCura unique. Through the support from central functions and by sharing best practices across clinics and countries, the development of medical quality can be accelerated.

One of the benefits of AniCura as an employer, institution and company is the possibility for closer collaboration to facilitate best practice sharing and thereby accelerate development of medical quality in a way that was previously not possible.

Quality improvements across AniCura are implemented locally at each clinic. To support this, and to ensure that quality improvements are shared, AniCura provides central structures and resources. Three of these structures are

the central quality team, the scientific council and the veterinary medical development council.

QUALITY DEVELOPMENT TEAM

This team supports the continuous in-clinic development work by providing specific expertise and infrastructures for knowledge sharing. The team sets the companywide agenda for medical quality development and runs AniCura's medical quality development program, QualiCura.

During 2017, AniCura's central Veterinary Medical Quality Development team comprised:

JO AMUNDSTAD,
DVM, MVM, Managing Director, VetScan

ANNELI BJÖERSDORFF,
DVM, PhD, AniCura Group Education Manager

ULRIKA GRÖNLUND,
DVM, PhD, Associate Professor, Group Medical Quality Manager

PETER FELEDY, Group Care Services Director

KIM MIDDELDORF,
DVM, Operations and Quality Manager

LISEN SCHORTZ, Biomedical Scientist, Group Medical Development Coordinator

STEIN ISTRE THORESEN,
DVM, PhD, Professor, Dipl ECVIM, Dipl ECVCP, Group Medical Development Director

QUALITY COORDINATORS

In 2017, each clinic within AniCura appointed a quality coordinator to facilitate and organise the clinics' implementation of QualiCura. The quality coordinators are veterinarians, nurses or managers. However, it is always the Practice Manager at each clinic who has the ultimate responsibility for systematic quality development.

ANICURA'S SCIENTIFIC COUNCIL

AniCura's Scientific Council was instituted in 2013 and supports AniCura's clinics with regards to evidence-based care and research strategy. The council



"Our ambition is to provide veterinary care of highest possible quality"

ULRIKA GRÖNLUND,
GROUP MEDICAL QUALITY MANAGER

reviews research applications and allocates funds from AniCura's Research Fund.

AniCura's Scientific Council enjoyed the following members in 2017:

ANNELI BJÖERSDORFF,
DVM, PhD, Group Education Manager

STEEN ENGERMANN, DVM, Danish specialist veterinarian (specialdyrlæge) in oncology

BARBARA KASER-HOTZ,
Prof. Dr. med vet., Dipl ACVR, Dipl ECVI

MONIKA LINEK, DVM, Dipl ECVD

CHRISTINA STRAND THOMSEN, DVM, Dipl ECVS

ANNA TIDHOLM, (chair),
DVM, PhD, Associate Professor, Dipl ECVIM-CA

STEIN ISTRE THORESEN,
DVM, PhD, Professor, Dipl ECVCP, Dipl ECVIM-CA

ANICURA'S VETERINARY MEDICAL DEVELOPMENT COUNCIL

AniCura's Veterinary Medical Development Council ensures that trends and developments in the veterinary industry are appropriately reflected in AniCura's strategies. The council also addresses ethical dilemmas arising from the rapid advancement of specialised veterinary care.

AniCura's Veterinary Medical Development Council enjoyed the following members in 2017:

PETER DAHLBERG, Chief Executive Officer

NANNA DENNEBERG, DVM, with Swedish specialist qualification in canine and feline oncology

PETER FELEDY,
(chair), Group Care Services Director

BIRGITTE GRANN GREVE,
DVM, veterinary ophthalmology specialist

MARIE GUSTAVSSON, Veterinary nurse

FRANK HÖHNER, DVM

MAAIKE MARIJNE, Veterinary nurse

MARCEL REIJERS, DVM

HENRIK STRANGE, DVM, Danish specialist veterinarian (Fagdyrlæge)

QualiCura



In 2015, AniCura established QualiCura, a companywide program to systematically support quality development at AniCura's clinics.

The program's purpose is to increase patient safety and improve medical outcome for patients in veterinary care. QualiCura focuses on nine areas that have significant impact on patient safety and medical outcome.

THESE AREAS ARE:

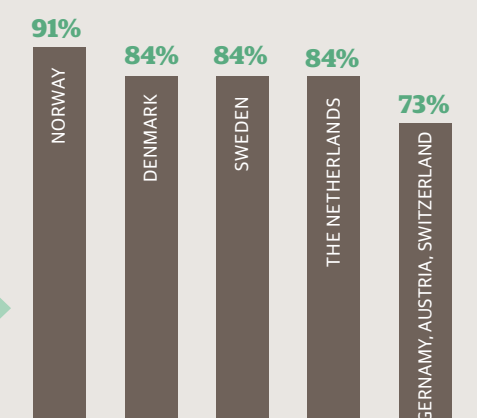
- Encouraging professional development and specialisation
- Creating and sharing medical best practices
- Improving professional communications skills
- Providing reliable diagnostic medicine
- Ensuring wiser antimicrobial use
- Monitoring surgical site infections
- Securing proper infection prevention and control
- Enabling good incident handling
- Promoting patient medical record quality

Following the QualiCura wheel (pictured to the left), studies were performed on surgical site infections in the first quarter, infection prevention and control in the second quarter, diagnostic medicine in the third quarter and antimicrobial use in the final quarter of 2017.

Employees positive to quality development

In AniCura's annual employee survey, more than 80% of the company's employees stated that their clinic works systematically with medical quality development.

Does your clinic work systematically with improvements of the quality of care that you provide?



GOALS and development plans for every individual

A structured professional development for all employees is important to secure the quality of veterinary medicine.

Throughout the year, AniCura further accelerated its investments in education and trainings. To capture more benefits stemming from collaboration in a highly-specialised environment, a new educational program, AniCura Continuing Education (ACE), was launched (read more on page 14).

Within AniCura, all clinics are expected to discuss, set goals and development plans for every individual at each clinic. Plans contain in-clinic training as well as theoretical and practical courses, internal as well as external. In 2017, about half of AniCura's employees regularly discussed long-term competence development with their managers. It is AniCura's ambition to greatly improve this proportion as active use of a personal development

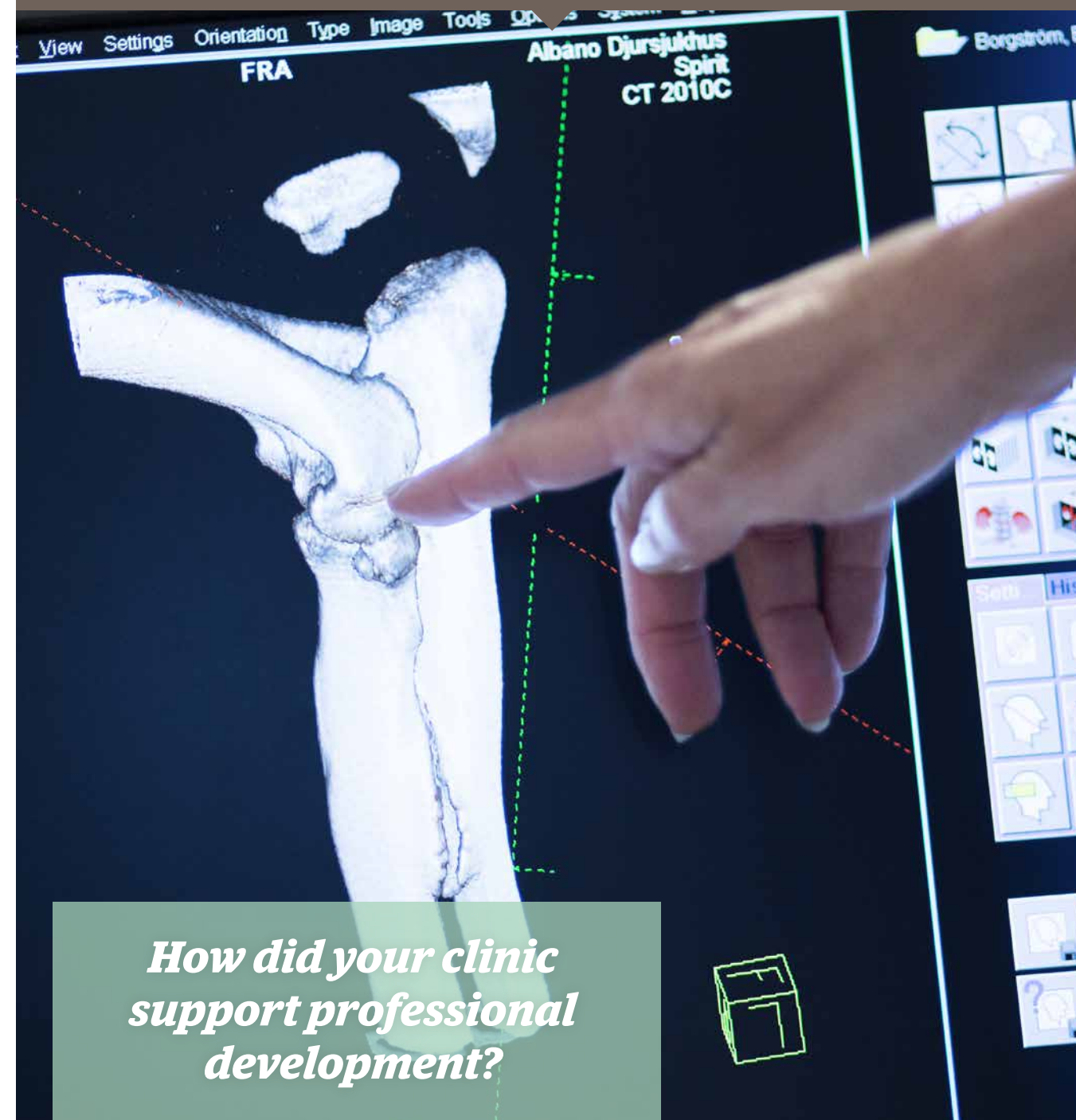
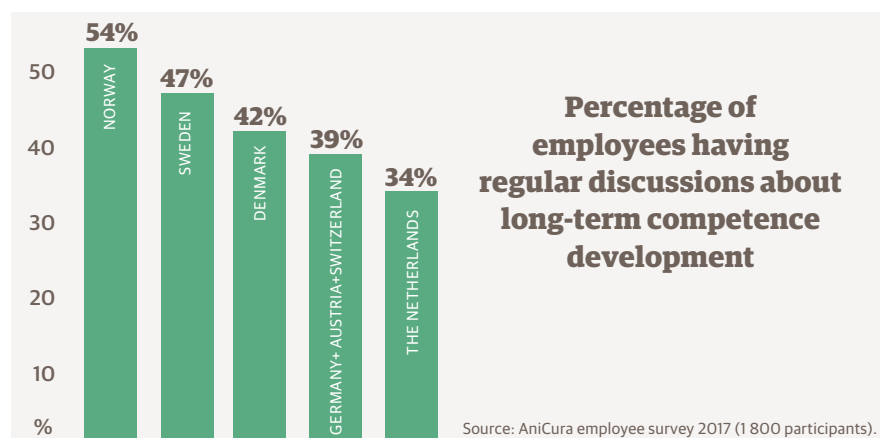
plan is also a main driver of employee satisfaction (AniCura employee survey 2017).

ENCOURAGING SPECIALISATION

Veterinary specialists are important to secure a high-quality care based upon

the latest medical standards. AniCura encourages its employees to specialise and about one third of AniCura's clinics are accredited as teaching institutions for various European or country-specific specialisation tracks.

As a consequence of AniCura's emphasis on advanced and specialised care, the company has a comparatively high share of specialised veterinarians employed. At the end of 2017, more than 200 national and international specialists were employed at AniCura, including 54 European specialists (Diplomates).



How did your clinic support professional development?



MARK DIRVEN,
VETERINARIAN AT ANICURA
DIERENZIEKENHUIS
DRECHTSTREEK,
THE NETHERLANDS

"My immediate managers were very supportive of my training. They were flexible around my work hours and I

could take four months off to study prior to my exam. When I passed the exam, my AniCura colleagues and the AniCura Group Management team were among the first people to congratulate me."

Mark Dirven started a residency program at Utrecht University to become a European specialist (Diplomate) in cardiology. During the five-year program, Mark started to work for AniCura Dierenziekenhuis Drechtstreek. The managers at AniCura helped arrange scheduling and work hours so Mark could complete his specialisation.

AniCura Continuing Education (ACE)

To support a high quality continuing education for our employees, AniCura has in 2017 established AniCura Continuing Education (ACE), a companywide education and training program.

Continuing education within veterinary medicine is offered by many suppliers, but there is still need for additional educational initiatives as the international market is fragmented and difficult to embrace. With ACE, AniCura aims to take a holistic view on continuing education and ensure that the

veterinary associations. ACE is a complement to the existing national and international educations in the veterinary industry.

INTERNATIONAL, NATIONAL AND REGIONAL COURSES

Based upon the educational needs of clinics, courses are created by AniCura or together with selected course partners. ACE consists of both individual medical courses, seminars and webi-

nars as well as a revolving curriculum intended for veterinarians and nurses with 0-10 years of experience.

In line with AniCura's ambition to develop the veterinary care industry, almost all courses are open for participants outside AniCura. The individual courses and course programs also serve as a mean to establish relationships and enable knowledge sharing between different veterinary professionals in the industry.

ACE was launched in May 2017.

During 2017, more than 20 courses and seminars were organised and marketed by ACE, covering a wide range of veterinary fields for both nurses and veterinarians.

**CONTINUING EDUCATION
IS KEY TO IMPROVE
MEDICAL QUALITY**

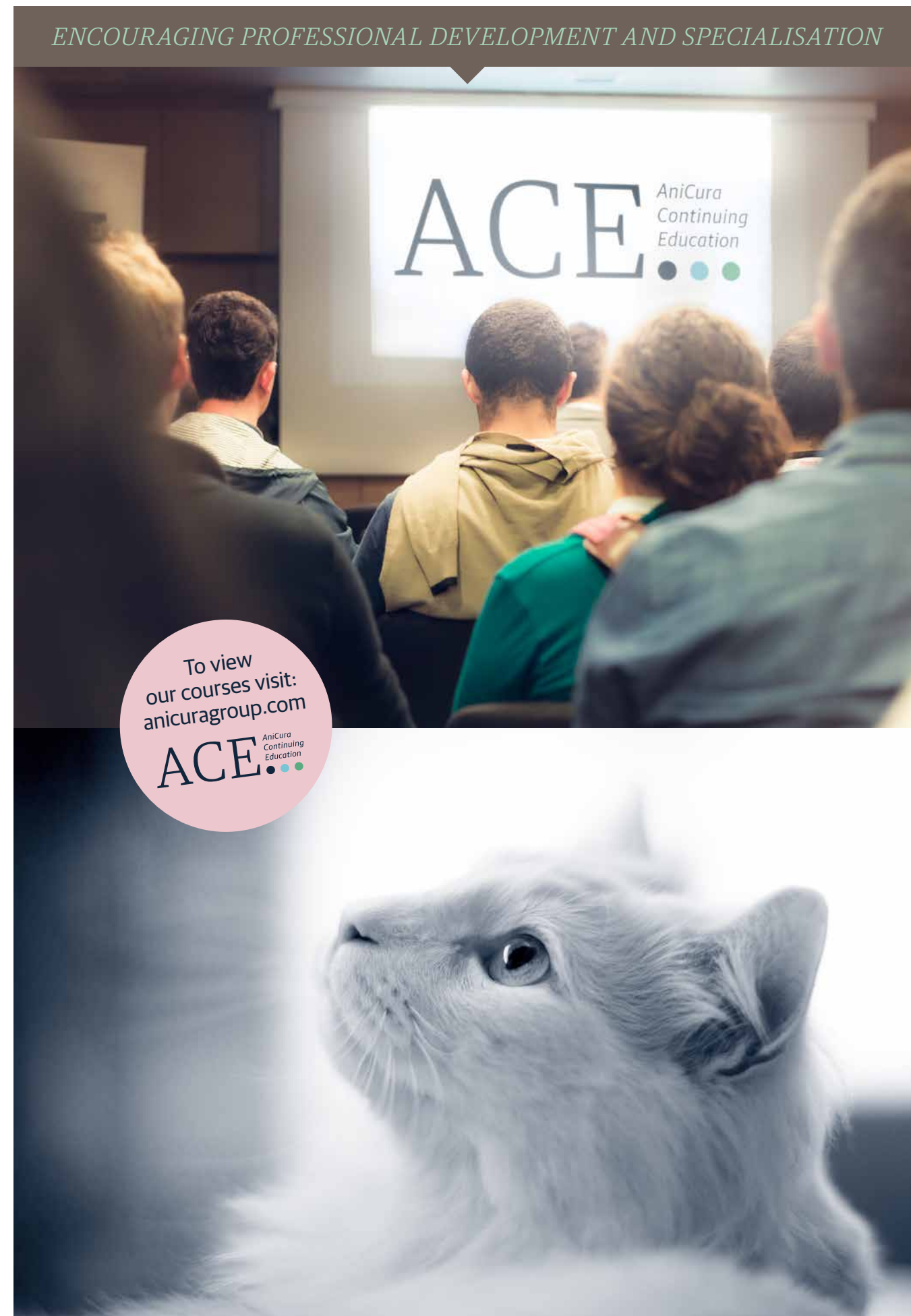
educational needs of a new generation of veterinarians and nurses are met. Tied to ACE is a reference group with representatives from AniCura's clinics across Europe, to review the curriculum and ensure the right focus of the program.

AniCura is a firm believer in the benefits of taking part in different trainings and meeting veterinary professionals from different parts of the industry and institutions at conferences, courses and seminars arranged by various



SIRI SEDBERG, VETERINARIAN
AND PRACTICE MANAGER
AT ANICURA DYRESYKEHUS
STAVANGER, NORWAY

"I am very pleased with the continuing education possibilities that are now available through AniCura. Last month, I participated in a special AniCura surgery course in Munich. Not only was the course in itself excellent, but as an extra bonus I got in touch with colleagues from all over Europe. When you get to know people, it becomes easier to ask for support and learn from each other."



ANICURA 2017

2017 was the third year with AniCura's quality development program QualiCura, and a wide range of measures to improve medical quality and patient safety were implemented. More than 1 000 employees started to use AniCura's digital tool for knowledge sharing and a record number of veterinarians applied for funding from AniCura's Research Fund.



FEB

New findings about antibiotics use

APR

AniCura publishes quality report for 2016



JUNE



New findings about surgical site infections

SEP

QualiCura quality coordinators appointed in each clinic



20 000 customers in annual satisfaction survey

OCT



AniCura's Medical Interest Group in Feline Medicine organises a congress in Amsterdam

AniCura's Medical Interest Group in surgery publishes this year's first case discussion covering thoracic radiography and surgery

JAN

179 active users on AniCura's knowledge sharing platform Yammer



Ulrika Grönlund is awarded the Swedish Hygiene Prize

MARCH



AniCura Research Fund supports 13 new projects

MAY

AUG

New findings around hand hygiene



1 000 active users on AniCura's knowledge sharing platform Yammer



OCT

New findings about diagnostic medicine

ACE

AniCura Continuing Education (ACE) organises one course in infection control and one in anaesthesiology. During 2017, more than 20 ACE courses were organised in 6 countries

DEC

STRUCTURED knowledge sharing develops veterinary medicine

Working together, sharing knowledge and best practice across clinics and countries is important for developing quality in veterinary medicine, and at the core of what AniCura does.

AniCura has put considerable efforts into providing several different structures and digital platforms to enable knowledge sharing between clinics and professionals in the company. This includes a database knowledge bank with best practice cases across all veterinary fields, an intranet with access to medical databases and journals, as well as several different international and national forums and councils. In 2016, AniCura also implemented "Yammer", a collaboration platform for enterprise social networking. Towards the end of 2017, more than 1000 AniCura employees were actively using Yammer to discuss patient cases, recent research and for general knowledge sharing.

MEDICAL INTEREST GROUPS

AniCura medical interest groups are focused on different veterinary fields and open to all veterinary professionals at AniCura. Each group typically consists of 30 - 150 veterinary professionals from different countries. Within the groups, best practices in diagnostics and treatment, new research and findings are discussed and analysed. The medical interest groups arrange meetings, publish case studies and help each other with patient cases. During 2017, two new medical interest groups were formed, making it a total of 20 active medical interest groups in AniCura.

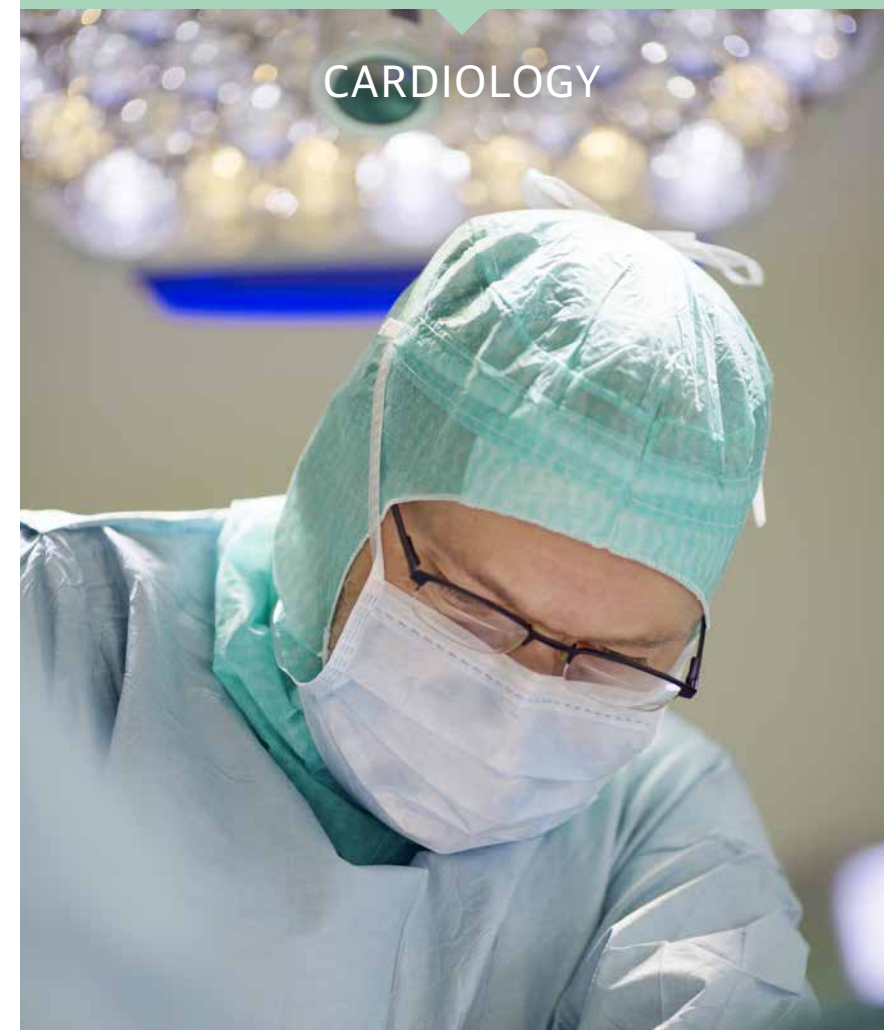
AniCura's Medical Interest Groups

- Anaesthesiology
- Antibiotics and resistance
- Cardiology
- Dentistry
- Dermatology
- Diagnostic Imaging
- Emergency and Critical Care
- Feline medicine
- Gastroenterology
- Infection prevention and control (Hygiene)
- Laboratory medicine
- Neurology
- Oncology
- Ophthalmology
- Physiotherapy and rehab
- Reproductive health
- Small mammals and exotics (new)
- Surgery and orthopaedics
- Wound treatment
- Urology (new)



DERMATOLOGY

Medical Interest Group deep-dives



CARDIOLOGY



REBECKA FREY, DVM,
SWEDISH SPECIALIST
QUALIFICATION IN
DERMATOLOGY, CHAIR OF
DERMATOLOGY GROUP

Tell us about yourself!

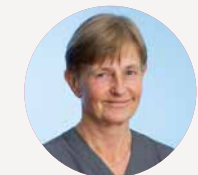
My name is Rebecka Frey and I work as head veterinarian at AniCura Norsholms Djursjukhus. I am a Swedish stage II specialist in dermatology.

When did the dermatology group start?

The group has been active since 2013 and now has more than 60 members from seven countries.

What have you done in the interest group during 2017?

We have posted articles and golden grains from lectures on our intranet and on Yammer, as well as tips about good webinars to attend. On Yammer, we also had numerous case discussions with participants from several countries. We organised a full-day otitis lecture in Stockholm with AniCura dermatologist Monika Linek, Dipl ECVD, as appreciated speaker.



ANNA TIDHOLM,
DVM, PHD, ASSOCIATE
PROFESSOR, DIPL
ECVIM-CA, CHAIR OF
CARDIOLOGY GROUP

Tell us about yourself.

My name is Anna Tidholm and I am a Diplomate of ECVIM (Cardiology) working at AniCura Djursjukhuset Albano. I am also an active researcher collaborating with national and international cardiologists and I am currently chairperson for AniCura's Scientific council.

The cardiology group is the first medical interest group and actually started long before AniCura! How did it all start?

Albano's cardiology group started in 2001 with the intention to train future cardiologists both clinically and scientifically at Albano and elsewhere. The group initially consisted of 7 people from Albano and other Swedish animal hospitals. We met monthly to discuss cases and current literature. Today we are almost 70 members all across Europe.

GOOD CUSTOMER communication requires training

There is strong scientific evidence that the quality of interpersonal communication has an impact on both patient outcomes and customer satisfaction, so for AniCura it is natural to continuously invest in this field.

Medical professional communication is a multi-faceted topic ranging from call-around price quotes to breaking sad news. AniCura addresses professional communications skills from several perspectives: best practice phone communications, training of front desk and reception staff, excellence in the veterinary consultations, and handling tough and sad situations such as grief or strong emotions.

ESTABLISHED MODEL FOR COMMUNICATION TRAINING

The veterinary consultation, and especially the interaction between veterinarian and pet owner, is at the very core of what AniCura does. Communicating

and exchanging information is fundamental. One of the methodologies that AniCura has introduced to improve customer communication is the "Four Habits Model".

"EXCELLENT COURSE WITH GREAT CONTENT! A LOT TO ABSORB, BUT IT WILL HAVE A BIG POSITIVE IMPACT IN THE CLINIC. I WISH EVERYONE COULD TAKE THIS COURSE!"

– PARTICIPANT IN FOUR HABITS SEMINAR

AniCura regularly conducts seminars and role plays with support of some of the most renowned authorities in the field. In 2017, about 600 employees have attended one of the courses or

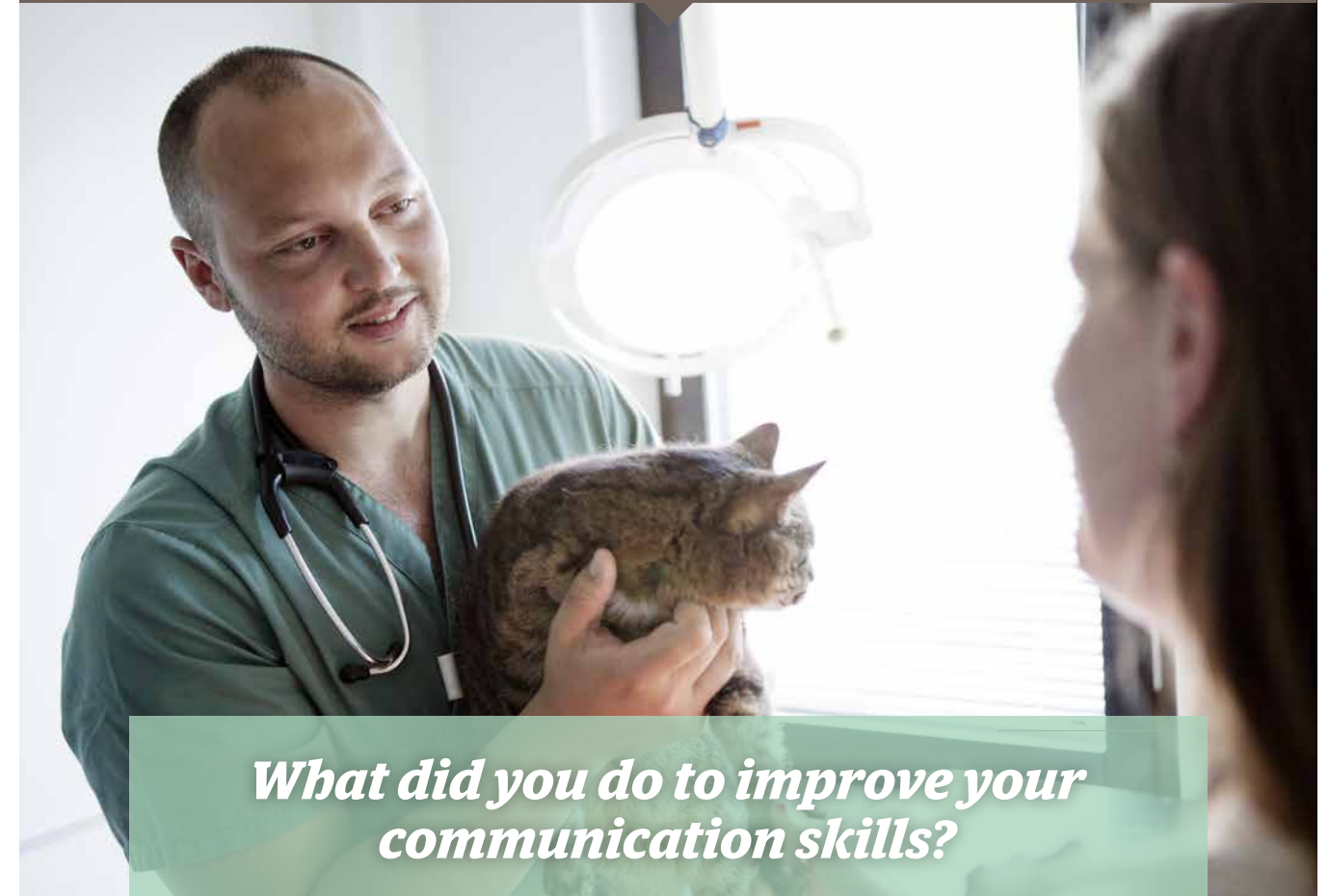
lectures on the Four Habits Model.

PHONE TRAININGS

There is only one opportunity to make a first impression, and at a veterinary clinic it is usually the initial phone call that sets the first impression. The initial phone contact effectively works as a first triage, demanding emphatic listening and communication skills from the staff in sometimes very critical situations. AniCura is working with a range of phone communication specialists across our geographies to train our staff and continuously develop.

GATHERING FEEDBACK

Every year, AniCura performs a companywide customer survey. Most clinics within AniCura also track feedback from customers on a weekly basis, including how easy it is to get in contact with the clinic, treatment, and perception of care. Read more about AniCura's overall customer satisfaction on page 39 in this report.



SANDRA GÖRANSSON,
VETERINARIAN AT ANICURA
REGIONDJURSJKHUSET
BAGARMÖSSEN, SWEDEN

"For me, the seminar gave me tools on how to convey sad news to the pet owner. It also helped me improve how I respond to the owner's feelings and emotions."

Sandra Göransson went to a two-day communication seminar with Bård Fossli Jensen, who is medical doctor and paediatrician with a PhD in medical communication. The seminar gave Sandra a better understanding for the pet owner's questions. She also learnt how to better end a consultation and how to summarise the meeting, which has been very helpful in her everyday work.



SABINE LEHMANN
& JOHANNA GALL,
RECEPTIONISTS
AT ANICURA
KLEINTIERMEDIZINISCHES
ZENTRUM HÜTTIG,
REUTLINGEN, GERMANY

"We, the reception team, changed our greeting on the phone, so that the calling person knows who he or she is talking to. We also use the pet's name a lot more during the phone call. The feedback from our clients was quite amazing, they noticed those little changes immediately."

Sabine and Johanna participated in a one-day-communication seminar for nurses and receptionists with Ute Grundt, our German communication coach who has been working with veterinarians and clinic staff for 10 years. The focus of the seminar was the communication on the phone as well as handling difficult situations at the reception desk.



THORSTEN RAVNBORG
THUDE, VETERINARIAN
AND PRACTICE MANAGER
AT ANICURA VARDE
DYREHOSPITAL, DENMARK

"I learned a lot from our audits. The main learning was to have patience with the pet owner and not hurry things. In the end, it gave me more information about the patient without being more time consuming."

AniCura Varde Dyrehospital has practiced peer-to-peer audits to improve their professional communication skills. In these audits, two veterinarians participated in the consultation room, one veterinarian was responsible for the patient and talked to the pet owner, while the other listened to the communication. After the consultation, the observing veterinarian gave feedback to the examining veterinarian on how to improve.

SKILLED STAFF and documented routines are keys to improve quality

Medical clinical decisions are often based on results of imaging and laboratory analyses, and the quality and reliability of these analyses have a significant impact on medical outcome and patient safety.

Almost every clinic within AniCura has x-ray imaging and instruments for in-house laboratory analyses. Also, more than 40 clinics have computed tomography (CT) equipment and 16 clinics have magnetic resonance imaging (MRI) equipment. In 2017, a QualiCura study among 78 AniCura clinics was performed to monitor the quality of diagnostic medicine.

COMPETENCE IS IMPORTANT

Knowledgeable veterinarians and medical personnel are essential when using diagnostic equipment and evaluating the images and test results. The 2017 QualiCura study about diagnostic medicine showed that in 50% of AniCura's in-house clinical laboratories, the laboratory processes were supervised by an

assigned responsible veterinarian. For imaging, the study displayed that there is a wide difference between clinics in the competence of the person who performs, approves and reads images and scans. AniCura's aim is to have an assigned responsible veterinarian or medical specialist for every instrument or machine. That person should set the routines, supervise the quality and evaluate the results as it all requires in depth knowledge.

BEST PRACTICE PROCEDURES

Laboratory analyses and imaging procedures should be performed in the same way every time to ensure correct results and possibility for comparisons. This requires documented routines and processes. It is also well known

that established routines with confident employees create an efficient work flow.

In this QualiCura study, the clinics were asked if they have, and actively use, documented and established routines (sampling, handling and analyses) for different kinds of laboratory samples. Answers showed that for the more common samples like blood and urine, around 60% of the clinics had documented routines and processes and used these actively (see figure, page 24). The need for improvement in this area is particularly clear concerning routines for bacteriology sampling.

**THE QUALITY OF IMAGING
AND LABORATORY ANALYSES
HAVE A GREAT IMPACT
ON MEDICAL OUTCOME**

The clinics that in 2017 had standard operating procedures or documented routines were asked to share their routines and documents with other clinics in the company, to improve the quality of laboratory diagnostics across AniCura.



*"Diagnostic quality
is highly dependent on
established processes,
quality controls and
above all trained
personnel"*

ANNELI BJÖERSDORFF,
GROUP LABORATORY MANAGER



PROVIDING RELIABLE DIAGNOSTIC MEDICINE



RESULTS AND CONCLUSIONS

INCREASED USE OF QUALITY CONTROLS IS ESSENTIAL

- 47% of clinics do regular performance controls of their x-ray machine and imaging system.
- 48% of clinics run quality controls of the laboratory instruments monthly or more often.

Clinics are encouraged to regularly perform an oversight of their quality controls, as diagnostic medicine plays an increasingly important role in modern veterinary medicine.

TOO FEW IMAGES ARE READ AND EVALUATED BY A SPECIALIST

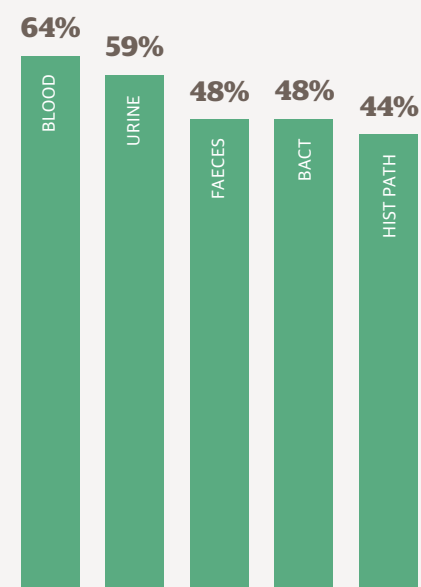
Only 17% of clinics have their x-ray images read and evaluated by a radiologist (board certified specialist, diplomate ACVR, ECVDI) always or sometimes. In another study, random x-ray images from a handful of clinics were sent to a radiologist for second opinion and in 10-15% of the cases, new and/or different conclusions were drawn, which highlights the benefits of using specialists for image reading.

DENTAL PROCEDURES REQUIRE A DENTAL X-RAY

46% of the clinics had defined routine protocols to do dental radiography before dental treatments, but with some regional differences.

In Scandinavia, 56% of the clinics had protocols and in continental Europe 35%. It is best practice to always perform an imaging before dental procedures to correctly assess the clinical situation.

Percentage of clinics using documented routines for laboratory samples

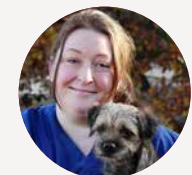


SOURCE: QualiCura Q3 study 2017.

PROVIDING RELIABLE DIAGNOSTIC MEDICINE



What actions did you take to improve diagnostic medicine?



ANNA GEHLIN, BIOMEDICAL SCIENTIST AT ANICURA REGIONDJURSJUKHUSET BAGARMOSEN, SWEDEN

"I was worried about the quality of our bacteriological analyses. But now, after having our work audited by a specialist and our results controlled by the quality assurance programs, I feel much more secure that our results are reliable"

At the clinical microbiology laboratory at AniCura Regiondjursjukhuset Bagarmossen a quality improvement program was initiated 2017. Together with external microbiology experts, the biomedical scientists evaluated SOPs and routines for bacteriological analyses and antibiotic susceptibility testing. Implementation of updated procedures has now started. The laboratory is also part of two different quality assurance programs, sending out bacteriological samples for them to identify and test for susceptibility.



ANTIBIOTICS are not always necessary

Infections in the surgical site can cause severe complications after surgery. However, infections can be prevented through better monitoring, improved infection control and surgical skills.

At AniCura, the ambition is to have a process for active surveillance of surgical site infections in all clinics, to diminish the risk for complications after surgery. Active surveillance means that after discharge from the clinic, the outcome of the surgery is checked one week as well as one month after surgery through reappointment or other contact with the pet owner. After systematically reviewing each clinic's results from several patients, routines can be improved to ensure better patient safety.

UNIQUE STUDY AMONG 1 035 DOGS

In the 2017 QualiCura study, the occurrence of surgical site infections was measured for the second year in a row. This time, a total of 1 035 dogs that underwent surgery at 50 AniCura clinics across Europe were included in the study. 73% underwent a so-called clean surgery where the surgical site is not contaminated. The dogs were checked seven days and thirty days after surgery to allow reliable detection of any infections resulting from the surgeries.

The average occurrence of surgical

site infections in the survey was 6.3%, defined according to guidelines from the Centres of Disease Control and Prevention, USA. This level is similar to what is described in scientific veterinary literature. Each clinic in this study received their clinic specific results together with recommendations on how to improve surgical procedures and infection control, to diminish the risk for infections.

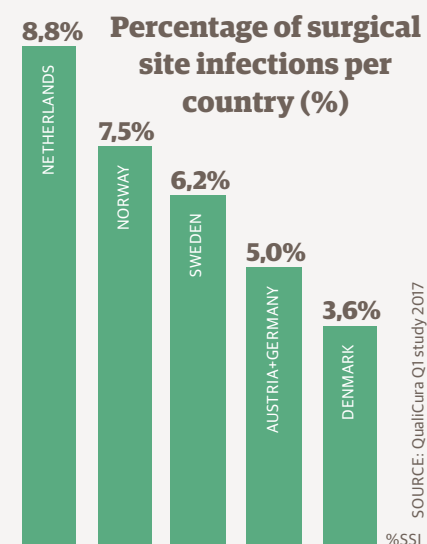
IF THE RIGHT TECHNIQUES AND HYGIENE PROCEDURES ARE APPLIED, ANTIBIOTICS SHOULD NOT BE NECESSARY IN SURGERIES IN NON-INFECTED TISSUE

ANTIBIOTICS NO GUARANTEE

AniCura's study showed country-specific differences in both infection rates (see figure) as well as in the use of antimicrobial prophylaxis. In total, surgical antimicrobial prophylaxis was used in 48% of the surveyed patients. One of the major findings was that clinics often using AMP, did not have fewer surgical site infections than others. Thus, antibiotics are not a guarantee to fewer infections.

RESULTS

- 23% of clinics use surgery safety checklists, a proven tool to decrease complications
- 83% of clinics use anaesthetic protocols



DEVELOPMENTS SINCE 2016 STUDY:

- 60% of clinics participating both years has decreased their occurrence of surgical site infections
- 58% of clinics have increased the number of patients kept warm during surgery (above 37°C). Too low body temperature during surgery increases risk for complications after surgery
- 51% of clinics has decreased their use of antimicrobial prophylaxis



PETER SKOV, PRACTICE MANAGER AND ONCOLOGIST AT ANICURA ODENSE DYREHOSPITAL, DENMARK

"We decided to wrap especially our smaller animals in blankets from the very beginning of their hospitalisation and added heating pads during the anaesthesia."

AniCura Odense Dyrehospital realised after this survey a need to increase the body temperature of their patients. The clinic will also stop prescribing antibiotics after surgery to contribute to the work against resistant bacteria.



KLAUS FLAIG, PRACTICE MANAGER AND SURGEON AT ANICURA BIELEFELD GMBH TIERÄRZTLICHE KLINIK FÜR KLEINTIERE, GERMANY

"We discussed the need to reduce the AMP in clean surgeries. Our aseptic work is good enough and it is more likely that the use of antibiotics is about habits."

AniCura Bielefeld Tierärztliche Klinik für Kleintiere already meticulously use an anaesthesia protocol with success and now they will also start to use a surgical safety checklist, particularly in emergency services.



MAJA ÖHMAN NYBERG, HEAD VETERINARIAN AT ANICURA FALU DJURSJUKHUS, SWEDEN

"We will after this survey improve our active surveillance of surgical site infections by better recording these infections, reviewing the data and give regular feedback on the results to our employees."

AniCura Falu Djursjukhus will also implement a surgical safety checklist. Another learning, when administering antimicrobial prophylaxis, it the importance of giving it at the right time to achieve the best preventive effect.

How do you work to prevent surgical site infections?

"There are no short-cuts to sustainable quality development. It requires a long-term commitment, hard work and structured processes. Ever since AniCura was founded in 2011, quality development has been a central part of our DNA. Today, I am proud to have a unique program for quality development across AniCura, employees committed to improve patient safety and a track-record of making substantial investments in equipment and research. But I am also humbled about the task ahead. We have so much more to achieve by working closer together and learning from each other."

PETER DAHLBERG, CEO



DECREASING TREND in use of antibiotics

Antibiotics are essential in both veterinary and human medicine for treating bacterial infections, and prudent use of antibiotics is important to counteract resistant bacteria.

There are no new antibiotics in the pipeline and both human and veterinary care must use the available antimicrobial drugs wisely, giving the correct substance for the right indication with accurate dose and dosing interval. In addition, unnecessary use must be minimised.

ANICURA HAS A GREAT RESPONSIBILITY FOR BOTH PATIENTS AND SOCIETY TO WORK AGAINST THE SPREAD OF RESISTANT BACTERIA

LOWER USE OF ANTIBIOTICS AT MANY CLINICS

In 2017, AniCura measured the use of antibiotics at 111 clinics across Europe. For the second year in a row, clinics recorded for one day what antimicrobial substance they used in dogs for systemic treatment or prophylaxis, together with indication for this use.

In total, 412 of the 3231 dogs received

antibiotics during the measured day, which equals 13% and is somewhat lower than in 2016. More than half of the clinics in the study have decreased

their use of antibiotics between 2016 and 2017. Still the incidence of antibiotics use varied among clinics from 0 dogs treated to 83% of the canine patients. In addition, the mean incidence per country differed from 5 to 18%. The significant country and clinic differences were addressed in the feedback to clinics, and guidelines on how to use antibiotics consciously were distributed for implementation.

RESULTS

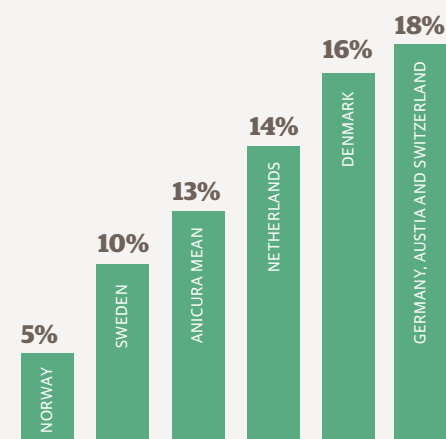
Surgical prophylaxis was the most common indication for dogs to receive antibiotics (21%) followed by wound infection including abscesses (15%), skin infections (dermatitis, furunculosis etc) (12%), gastro-intestinal disorders (11%), and urinary tract infections (6%).

The most commonly used antimicrobial class was beta-lactam antibiotics (72%). Most dogs were treated empirically, i.e. without any diagnostic aid like bacteriology and/or cytology results.

Duration of treatment varied from 1 to 60 days with a median of 7 days.

DEVELOPMENTS SINCE 2016 STUDY: 52% of clinics participating both years have decreased their use of systemic antibiotics to dogs.

Percentage of dogs given systemic antibiotics during one day per country (%)



DORTHE HANSEN, HEAD VETERINARIAN AND SURGEON AT ANICURA DYRESYKEHUSET BERGEN NORD, NORWAY.

"QualiCura makes us better surgeons making us realise that we do not need that much antibiotics."

At AniCura Dyresykehuset Bergen Nord, the team has initiated discussions around each patient to carefully determine whether antimicrobial prophylaxis is necessary. The clinic also continuously improves preventive measures for the patient and in the surgical ward.



ULRICH GÖGGERLE, PRACTICE MANAGER AND SUREGON AT ANICURA KLEINTIER SPEZIALISTEN RAVENSBURG, GERMANY.

"Previously, antibiotics were administered as a routine to all surgical patients, without further reflection."

AniCura Kleintierspezialisten Ravensburg changed its anaesthesia protocol. They added a field with the heading "no antibiotics" which made it possible to tick in "no antibiotics", highlighting that antibiotics are not always necessary.



HEGE JØNTVEDT, HEAD VETERINARIAN AND OPHTHALMOLOGIST AT ANICURA STJØRDAL DYREKLINIKK, NORWAY.

"The most difficult people to change are the oldest veterinarians with a lot of experience – like myself. You have to be confident with the idea of less antibiotics and implement the changes step by step."

In AniCura Stjørdal Dyreklinikk, the team started reducing the days of antibiotics used after surgery to become confident with the results. At the same time, hygiene before and during surgery was improved.

What did your clinic do to ensure a wiser use of antibiotics?

HAND HYGIENE in veterinary care can improve

Good hand hygiene is the single most important measure to minimise spread of microorganisms, including antimicrobial resistant bacteria.

AniCura works actively to secure proper hand hygiene routines among all employees. Within healthcare, alcohol based hand sanitisers offer the best and most effective way

THE PURPOSE OF OUR STUDY IS TO HIGHLIGHT THE IMPORTANCE OF GOOD HAND HYGIENE TO ALL VETERINARY PROFESSIONALS

of removing bacteria and viruses. To increase compliance to use of hand sanitiser, dispensers must be readily accessible and the use of hand sanitiser should be measured and analysed to raise awareness among employees. These aspects are included in AniCura's quality program, QualiCura.

HAND HYGIENE ANALYSED

Within the QualiCura program, the compliance to hand hygiene has been measured two years in a row. These studies included the consumption of

alcohol-based hand sanitiser, availability of dispensers and presence of an individual responsible for infection control. In 2017, 61 clinics across Europe had an average consumption of 7,6 ml hand sanitiser per patient and day, but with large variation between countries (see figure) and clinics. These results indicate that the use of hand sanitiser and compliance to hygiene

routines can improve and each clinic received recommendations on how to improve and develop their routines.

INFECTION CONTROL GUIDELINES

AniCura has written company-wide guidelines for infection control including instructions on how to clean and sanitise hands, as well as recommendations for dress code, use of personal protection equipment, cleaning and disinfection of facilities and surgical instruments. In 2017, these infection control guidelines were made available in local languages to simplify the implementation.

Use of hand sanitiser per country (ml per patient and day)

RESULTS

- 75% of the clinics had a designated person to coordinate the local infection control work
- On average, the clinics had 1,2 dispensers per room for patients

DEVELOPMENTS SINCE 2016 STUDY:

57% of clinics have increased their use of alcohol-based hand sanitiser - an important sign of improved hygiene routines

DENMARK **4,1 ml**

GERMANY **5,5 ml**

NORWAY **6,3 ml**

THE NETHERLANDS **8,4 ml**

SWEDEN **8,8 ml**

What did your clinic do to improve hand hygiene?



BÄRBEL RÖSCH,
PRACTICE MANAGER AND
VETERINARIAN AT ANICURA
TIERÄRZTLICHE PRAXIS DR.
XAVER RÖSCH, GERMANY

"We performed regular control of consumption of hand sanitiser separately for each room, as a competition."

AniCura Tierärztliche Praxis Dr. Xaver Rösch has installed several additional dispensers in the corridors to facilitate access. They have also decided to continuously put hand hygiene routine and infection control on the agenda for their team meetings.



ULRIKA KJELLMAN,
HEAD VETERINARIAN AT
ANICURA JÄGARVÄLLENS
DJURSJUKHUS, SWEDEN

"We made dispensers for alcohol-based hand sanitisers more easily available, increasing them to more than one per room."

AniCura Jägarvällens Djursjukhus was the top user of alcohol-based hand sanitiser and they had increased their use to 43 ml per patient and day. The clinic has worked hard to raise awareness among employees about the need to use alcohol based hand sanitiser both before and after all contact with patients.



THOMAS RIEKER,
PRACTICE MANAGER
AND VETERINARIAN AT
ANICURA KLEINTIER-
SPEZIALISTEN RAVENS-
BURG, GERMANY

"After the self-luminous activity, the most forgotten areas to disinfect were drawn on a sheet and hung up visible for everyone in the kitchen."

Following the QualiCura hand hygiene survey, AniCura Kleintierspezialisten Ravensburg launched an initiative to raise awareness about the importance of hand disinfection. Employees were assigned to disinfect their hands with a self-luminous disinfectant test solution. Everyone marked their own critical points on a paper with imprinted hands drawn.

NEW INITIATIVE to ensure cross- clinic learning

Systematic handling of medical incidents and their root causes, as well as structured cross-clinic knowledge sharing, are keys to reduce the risk for re-occurrence of incidents and improve patient safety.

Unintended incidents are unfortunately inevitable in all complex processes, and veterinary medicine is no exception. However, by adopting a strong safety culture as well as applying tools enabling an honest and blame-free analysis and discussion of these adverse events, the risk of re-occurrence can be significantly decreased. This has successfully been shown for a long time in the aviation industry, and more recently also in human health

care. The need for effective incident handling processes can be highlighted by US studies showing that preventable medical errors are the number three cause of death after cancer and cardiac disease.

SYSTEM FOR INCIDENT HANDLING
A project called the AniCura Patient Safety Improvement System was initiated during 2017. The goal is to ensure that systematic and cross-clinic

learnings from medical incidents can be made in a constructive way. The focus will be on finding systemic causes of errors.

By gathering data around medical incidents, AniCura will be able to answer questions such as:

- *If medication is administered incorrectly, what are typical causes?*
- *What can we together learn from anaesthesia-related incidents?*
- *Are there any patterns across medical incidents with a fatal outcome?*
- *How do we create a safety culture where we collectively learn from incidents?*

Improving patient safety through good incident handling is a priority for AniCura for many years to come.



REVIEWING medical records improves quality

Proper and accurate medical records are important to ensure patient safety, reduce medical errors and enable a good communication to customers.

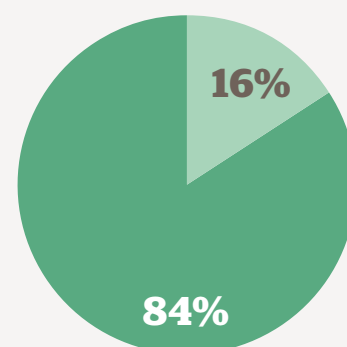
To promote medical record quality, AniCura initiated a project in 2017 where medical records were reviewed by different individuals and based upon a companywide checklist. The purpose is to ensure good and similar routines for medical record writing across the company and to raise awareness among employees about the importance of a proper medical record for each patient.

24 000 MEDICAL RECORDS REVIEWED
In 2017, 55 clinics in Sweden, Norway, Germany, Austria, Switzerland and Denmark participated in the medical record project. They together evaluated more than 24 000 medical records.

To ensure comparability, the clinics used similar checklists as a tool when going through the medical records. The main focus was on the completeness of the patient medical records and its effect on medical quality. 84 % of the medical patient records reviewed in the project were judged to be of a satisfactory medical quality and giving a clear understanding of examinations, results, diagnosis and treatment.

In 16% of the medical records, there were deficiencies in patient medical history, patient condition and lack of clear documentation and evaluation of test results. These areas for improvement were similar across countries.

**84% of
reviewed
patient records
were of good
medical quality**



What did your clinic do to improve medical record writing?



MARKUS KASPER,
PRACTICE MANAGER,
ANICURA TIERKLINIK
ASPERN, AUSTRIA

"We have reviewed the use of abbreviations in the patient medical records to make sure that we all understand and use the same ones. We also teach our young vets to use open questions and to always end by asking the pet owner if anything has been forgotten to mention."

The team at AniCura Tierklinik Aspern started to review their patient medical records five years ago and took the chance to once again evaluate their routines within the AniCura 2017 project. The medical history is very important to the team and they all allocate substantial time to get input from the pet owner.



TITTI SJÖDAHL-ESSÉN,
HEAD VETERINARIAN,
ANICURA DJURSJKHUSET
ALBANO, SWEDEN

"I have learned to write a short summary of the anamnesis from previous visits. This can be easily copied to the next appointment. Very useful and quick help especially if the patient has many re-visits."

AniCura Djursjukhuset Albano has reviewed 3 686 medical records during the year. The major learning was that patient history from previous visits was too scarce. This created a lot of additional work and stress as employees had to search in texts from several earlier appointments. Going forward, employees will make a summary of the patient history from previous visits in each medical record. Also, the clinic tries to book re-appointment in conjunction with the consultation to save time for the receptionists and improve the customer experience.



FRANZ XAVER LUTTER,
PRACTICE MANAGER,
ANICURA
KLEINTIERZENTRUM
HEILBRONN

"By improving documentation in our patient records, we can develop the after-care of the patient as well as future treatments. I am more accurate and critical towards my own records to state a good example at the clinic."

AniCura Kleintierzentrum Heilbronn uses AniCura's companywide checklist for medical record writing extensively across the whole team. Especially the newly employed veterinarians benefit from having a tool to check their patient records.



*Quality is a key driver
for customer satisfaction
in AniCura*

HIGH CUSTOMER satisfaction

Measuring and acting upon customer feedback forms an important part of the quality development work at AniCura.

AniCura's quality efforts include both the actual, as the well as the perceived quality. The perceived quality is measured both in relation to each clinic visit at many clinics as well as in an annual customer survey. These surveys show that AniCura has a stable and high customer satisfaction over time, and a high degree of customers is willing to recommend AniCura to others.

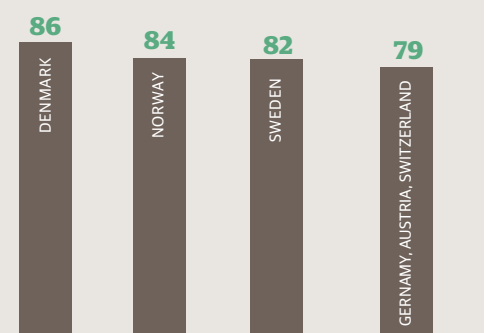
QUALITY IS IMPORTANT TO CUSTOMERS
In 2017, more than 20 000 customers from six countries participated in AniCura's annual customer survey. The survey showed a high customer satisfaction index of 83, in line with previous year's results. The perception of the

treatment and quality of the treatment was by far the most important driver of satisfaction in all markets, followed by the perception of the front desk and price information. This underlines the importance of AniCura's work around medical quality.
In comparison to other veterinary

care providers the customers had visited during the past twelve-month period, the quality of care provided by AniCura's clinics was ranked relatively higher at index 89. Overall, customers were positive to the developments within veterinary care and 90 % do believe that the quality in veterinary care has increased over the past five to ten years. Each clinic within AniCura received their clinic specific results and analyses. Local improvement plans and activities were implemented during the second half of 2017.

*Customer
satisfaction
index 2017*

SOURCE: AniCura customer survey 2017





*Every new clinic
joining AniCura receives
a welcome visit*

QualiCura[®]



QualiCura

VISITS

The Veterinary Medical Quality and Development team visits each new clinic joining AniCura.

Every new clinic joining AniCura receives a welcome visit from the Veterinary Medical Quality and Development (VMQD) team. At the meeting, a general quality briefing is performed. QualiCura's nine focus areas are reviewed and discussed together with the Practice Manager and/or head veterinarian; how is the clinic working with patient safety? What are the key development areas and how can the VMQD team provide relevant support? During 2017, the VMQD team visited 26 clinics. In general, a visit takes half a day and starts with a discussion and presentation of the QualiCura program, followed by a walk-through of the clinic.

INTRODUCTION TO QUALICURA

Discussions at the QualiCura visits commonly involve practical aspects of the nine focus areas of QualiCura,

how these can be adopted into the everyday work at the clinic. There are also some prerequisites needed for the clinic to develop within medical quality. For example, having regular meetings with all employees and individual development plans. When walking through the clinics, special emphasis is put on infection control routines such as hand hygiene, protocols for cleaning and disinfection of the facility, and the process around instrument handling (cleaning, disinfection and sterilisation). During 2017, measurements of cleanliness of surfaces, equipment and surgical instruments were added to the visit protocol. Cleanliness was tested through measuring adenosine triphosphate (ATP), where ATP is an indirect measurement of the cell content on a surface, i.e. how dirty a surface is.



Example of quality accreditations in AniCura: ISO 9001:2015

Several clinics within AniCura are accredited according to different national or internal quality standards. One example is Sterkliniek Dierenartsen, a Dutch group of veterinary clinics that became part of AniCura during spring 2017

Sterkliniek Dierenartsen is a franchise comprising 84 veterinary clinics in the Netherlands. Sterkliniek is certified according to the international quality standard ISO 9001:2015.

ISO 9001:2015 is based upon quality management principles including a

AN INTERNATIONALLY RENOWNED QUALITY STANDARD WITH INDEPENDENT AUDITS BUILDS CONFIDENCE AMONG PET OWNERS

strong customer focus, the importance of a good management, structured processes and continuous improvements. It covers all critical processes performed within an organisation. To achieve

and withhold the certification, annual and independent audits are performed by Lloyds Registered Quality Assurance. Sterkliniek Dierenartsen started to work with the quality management system already in 2007.

THOROUGH QUALITY MANAGEMENT SYSTEM

The quality management system at Sterkliniek Dierenartsen clinics is comprehensive and includes aspects such as infection control, patient safety, medical record writing, incident handling, customer communication and complaints handling, as well as employee management and continuing education. Environmental aspects as

for example waste disposal, are also covered by the certification.

CLINICS BENCHMARKED ACROSS THE GROUP

As part of the quality management system, there is a structured peer review program where clinics are benchmarked against each other. These benchmarks cover employee satisfaction, medical record analysis and analysis of medical complications. Best practice guidelines on different medical subjects are continuously developed based on the peer review.

Clinics within the Sterkliniek group visit each other on a regular basis to discuss quality improvements



ENNE KWANT IS QUALITY MANAGER AT STERKLINIEK DIERENARTSEN AND PRACTICE MANAGER FOR STERKLINIEK DIERENARTSEN DEVENTER AND APELDOORN IN THE NETHERLANDS.

How do you work to improve patient medical record writing?

At each clinic, medical records of each veterinarian are judged by another

veterinarian using a mandatory form. We evaluate the quality of the records on several parameters including physical examination, diagnostics, communication and treatment. The analyses and conclusions are discussed in teams at the clinic, and once every year discussed in the peer review program across all clinics.

How are employees trained in customer communication?

Continuing education is mandatory for clinics within Sterkliniek, and should include both veterinarians, nurses and supportive staff. To improve our customer communication skills, we work together with the Hotel Management

School in Maastricht. Looking at the hotel and catering industry is very inspiring when it comes to customer information and experience! Adjacent to this, we have the complaints handling procedure which is a set process at every single clinic.

How does the Sterkliniek quality system work vis-à-vis QualiCura?

One of the reasons Sterkliniek became part of AniCura is that we share the vision of offering the best quality of care available. Between the two programs, we can share a lot of insights and learnings about how to best run systematic quality development programs and accelerate this development.

RESEARCH

in AniCura

AniCura strongly believes in the advancement of veterinary medicine through scientific research. Each year, the company provides funding for clinical research.

AniCura strives for evidence based medicine and practice, and strongly encourages all medical staff to advance the research-based knowledge within veterinary medicine. AniCura has many dedicated employees who devote time and effort to conduct clinical research

alongside their other duties.

In 2015, AniCura decided together with three of its largest owners to start the AniCura Research Fund to facilitate clinical research by AniCura employees. The scientific screening and ultimate decision on which

research projects to fund lie within the responsibility of AniCura's Scientific Council. The council reviews and approves applications for financial support. Only projects of high scientific research standards with potential of publishing the findings in scientific journals will be granted funds.

During 2017, AniCura's Scientific Council reviewed 19 applications for support from AniCura's Research Fund. Of these, 13 projects were approved and received funding from AniCura's Research Fund.

"L-asparaginase activity and plasma amino acid profile in treatment-naïve healthy and high-grade lymphoma-bearing cats after a single injection of PEG-L-asparaginase"

ADA KRUPKA,
ANICURA DIERENZIEKENHUIS ZEEUWSVLAANDEREN,
THE NETHERLANDS

Veterinary oncology is a rapidly growing field with new treatments being developed to help the increasing number of cancer patients. This research project intends to test a new type of chemotherapy substance and develop a corresponding protocol, reducing the number of treatments needed as well as treatment time.



"The role of sex hormones in idiopathic epilepsy in dogs"

SOFIE VAN MEERVENNE, ANICURA LÄCKEBY
DJURSJUKHUS, SWEDEN

Epilepsy is one of the most common neurological disorders in veterinary medicine. The effects of sex hormones on seizures and epilepsy are well documented within human medicine, but not in veterinary medicine. This project is aiming to examine the epidemiology of seizures in dogs with focus on sex and neuter status, by analysing sex hormones in salivary (and blood) samples of dogs with epilepsy.

"Prevalence of epilepsy in British Shorthair cats"

MARIANNE TENDER, ANICURA
DJURSJUKHUSET ALBANO, SWEDEN

Historically, epileptic seizures in cats usually were considered the result of an intracranial structural disease, for example a brain tumour or an infection. The last 15 years it has become clear that cats suffer from recurrent seizures with no structural disease in the brain (idiopathic epilepsy), just as people and dogs do. The aim of this project is to investigate the prevalence and clinical features of epilepsy in British Shorthair cats born in Sweden 2006 – 2016.



"Influence of bending direction on new polyaxial locking plate in fracture gap model"

JAKUB KACZMAREK,
ANICURA KLIENTIERSPEZIALISTEN AUGSBURG,
GERMANY

Locking plate/screw systems are used frequently in modern fracture fixation. Most locking systems use the same angle, but newer polyaxial systems allow for different angles enabling better positioning of the screw. The study will discover if and how the polyaxial system with the advantage of better screw orientation will weaken the construct and which combination of screw position will give the most stable result.

"Genetic sequencing and differentiation of Helicobacter spp. in Norwegian dogs with gastritis and gastric ulcers"

THOMAS ØYO, ANICURA BERGEN SØR, NORWAY

Helicobacter spp. are a type of bacteria that cause gastric ulcers in both humans and pets. This project aims to research various genetic variants of this bacterial species and thereby understand how antibiotic treatment could be made more effective.

"Influence of sex hormones on medial patellar luxation in female small breed dogs"

EIRIK KVALE, ANICURA BERGEN NORD, NORWAY

Patellar luxation, or "slipped kneecaps", is one of the major health problems in small breed dogs. This project intends to research whether the heat cycle has any impact on patellar luxation or not.



"Carprofen concentration in milk of lactating bitches treated with a subcutaneous injection of carprofen followed by oral carprofen for five days"

ANNA EDNER,
ANICURA FALU DJURSJUKHUS, SWEDEN

Sometimes bitches that have puppies are not given painkillers due to a fear that the drugs may spread to the puppies through the milk. The aim of the study is to provide veterinarians with statistical evidence of the safety of administering carprofen to lactating bitches, to improve animal welfare.



"Transthoracic echocardiographic reference intervals in the English Setter dog"

LIVA VATNE,
ANICURA DYRESYKEHUS OSLO, NORWAY

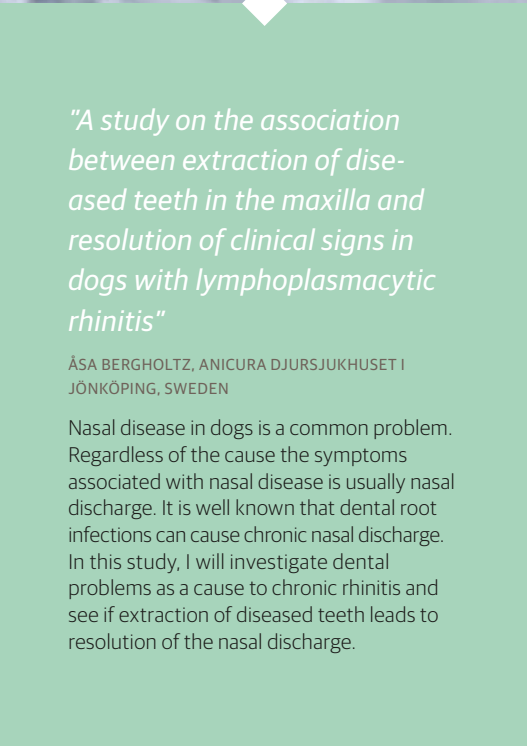
English Setters as a breed rarely show heart disease. This project aims to establish and compare echocardiographic reference intervals of healthy English Setters with that of other breeds so that misdiagnosis of heart disease in individuals with healthy hearts can be diminished.



"Heart disease in the English Bull Terrier"

HANNEKE VAN MEEUWEN,
ANICURA KLINIEK VOOR GEZELSCHAPSDIEREN
EERSEL, THE NETHERLANDS

In English Bull Terriers, murmur heart sounds are common and the breed may have higher risk for cardiac disease. In this study, we will determine how common heart disease is in the English Bull Terrier population by establishing specific echocardiographic reference ranges and finding out if specific cardiac conditions are genetically inherited.



"A study on the association between extraction of diseased teeth in the maxilla and resolution of clinical signs in dogs with lymphoplasmacytic rhinitis"

ÅSA BERGHOLTZ, ANICURA DJURSJUKHUSET I
JÖNKÖPING, SWEDEN

Nasal disease in dogs is a common problem. Regardless of the cause the symptoms associated with nasal disease is usually nasal discharge. It is well known that dental root infections can cause chronic nasal discharge. In this study, I will investigate dental problems as a cause to chronic rhinitis and see if extraction of diseased teeth leads to resolution of the nasal discharge.



"Optimising antimicrobial periprophylaxis in canine surgery: Analysis of data from 44 small animal practices in Europe"

OUTI TURKKI, ANICURA REGIONDJURSJUKHUSET
BAGARMOSSEN, SWEDEN

Post-surgical infection is a well-known potential complication to different kinds of surgery. The aim of this study is to evaluate the effect of antibiotics given before and during surgery on surgical site infections. It is a multi-center study involving 763 dogs from 44 different clinics in 6 different European countries.



"Importance of hypo-and aplasia of the caudal articular facets in pugs in the development of progressing non-painful myelopathy"

CECILIA ROHDIN,
ANICURA DJURSJUKHUSET ALBANO, SWEDEN

The pug breed has gained increasing popularity in recent year, and with this follows the importance of responsible breeding strategies. Myelopathies (PMP) are neurological disorders of the spinal cord and this project looks closer at how insufficient or defective development of the joints, which could be breeding-related, influences development of PMP.



"By working together, we can have a significant impact on medical outcome and patient safety"

ULRIKA GRÖNLUND, GROUP MEDICAL QUALITY MANAGER

