

Strama Annual Report 2006

Strama's remit

Strama was reorganised in September 2006 to become a collaborative body with the remit of working for interdisciplinary collaboration in issues related to safeguarding the possibility of effective use of antibiotics in human and veterinary bacterial infections. Strama is also to take the initiative with regard to measures that primarily affect human health. The remit is specified in a directive issued by the Swedish Institute for Infectious Disease Control (SIIDC) and corresponds well with the aims that Strama has had since its inception in 1995. During the 2006 fiscal year Strama was allocated 10 million SEK from the government's budget for public health measures.

Developments in antibiotic consumption and antibiotic resistance

Total antibiotic consumption in Sweden increased slightly during 2006. According to statistics from Apoteket AB (the national retail pharmacy monopoly), sales in 2006 amounted to 15.18 daily doses/1000 inhabitants/day. The equivalent figure for 2005 was 14.76. Penicillins and tetracyclines remain the largest groups in community healthcare. The trend towards reduced use of broad-spectrum treatment with quinolones in urinary tract infection in women is reflected in the sales figures for urinary tract antibiotics. Instead one can see a desirable increase in narrow-spectrum penicillins with less risk of developing resistance. Skåne Region and Stockholm County remain at the top of the national league table of antibiotic consumption in community healthcare. Overall consumption has also increased slightly in hospitals. Cefalosporins represent the largest group, closely followed by penicillins, tetracyclines, and fluoroquinolones.

Strama, in collaboration with the SIIDC, monitors the development of antibiotic resistance. The incidence of MRSA in Sweden continued to climb, 1060 cases being initially reported in 2006 compared with 973 in 2005. This represents a rise of just over 9%, which is, however, a lower rate of increase than was seen in the preceding year which saw a rise of 38%. Half the cases were infected in Sweden, 28% abroad, and the remaining 22% lacked information. No new large outbreaks were detected during the year.

Strama has, via the Antibiotic Reference Group (ARG) and the "therapeutic agent group" at the SIIDC worked to improve the quality of incoming data reported via SmiNet2 and to improve the release of epidemiological typing results, by a variety of methods, including the SIIDC's web site. Strama has also taken over the job of completing a knowledge-based report on preventive measures for community MRSA infection for the National Board of Health and Welfare (NBHW).

For the first time, MRSA has been found in Swedish pets. A report on postoperative MRSA infection in dogs led to Strama calling a collaborative meeting with the Swedish Veterinary Association (SVA), the SIIDC and the NBHW, which was followed by further meetings with county medical officers in communicable diseases, environmental health departments, and the Swedish Work Environment Authority. The results included the classification of MRSA as a zoonosis, thereby becoming a subject for continuing strategic discussions in the National Zoonosis Committee.

An increased prevalence of enterobacteria (intestinal bacteria) that produce Extended Spectrum Beta-lactamase – ESBL – was reported from several parts of the country. In Uppsala there was an outbreak of ESBL-producing *Klebsiella* centred upon the University Hospital. This led Strama to call a telephone conference with all involved parties. Because of the increasing seriousness of the problem, ESBL infection was made a notifiable disease from 1st February 2007.

As regards the situation with penicillin-resistant pneumococci (PRP), 631 cases were reported compared with 663 in 2005. Similarly for vancomycin resistant enterococci (VRE), 25 reported cases, compared with 35 the preceding year, was in our initial judgement essentially static.

Strama's leadership

Management board

According to its establishing directive, Strama is to be governed by a board of management comprising of a chair and nine other members. The government has appointed Otto Cars to the chair, and other board members have been appointed by the board of the SIIDC. Names were put forward by the NBHW, the SIIDC, the Swedish Medical Products Agency, the National Veterinary Institute, the Swedish Association of Local Authorities and Regions, and Apoteket AB. For the three remaining board positions, the board of the SIIDC decided to invite proposals from the Reference Group for Antibiotics, the Swedish Association for Infection Control and the Swedish Society for Communicable Disease Prevention and Control.

The board members are:

Otto Cars, Uppsala University, (chair)

Anders Tegnell, National Board of Health and Welfare (NBHW)

Lars Engstrand, Swedish Institute for Infectious Disease Control (SIIDC)

Charlotta Edlund, Swedish Medical Products Agency (MPA)

Christina Greko, National Veterinary Institute (NVI)

Gabriella Kollander Fällby, Swedish Association of Local Authorities and Regions (SALAR)

Anders Carlsten, Apoteket AB

Inga Odenholt, Reference Group for Antibiotics (RAF)

Rolf Lundholm, Swedish Association for Infection Control (SAIC)

Hans Fredlund, Swedish Society for Communicable Disease Prevention and Control (SSCDC)

All board members hold office for three years on a personal mandate without deputies. The board's first meeting took place on 1st February 2007.

The former national Strama group held a meeting in the spring of 2006 but has since been disbanded.

Executive committee (EC)

The local county-organised Strama groups form the basis of national activity. In its annual activity plan, Strama's continuing work is divided into areas of activity with an area lead. These leads are appointed by Strama's chairman, and they sit on an executive committee whose nationwide work is co-ordinated with the support of an administrative office located within the SIIDC. Apart from the salaried staff, members of the EC serve for one year at a time. Fees that are paid to the members of the EC that are not employed by Strama are stipulated in an agreement between the employer and Strama.

Strama's salaried staffing levels have increased during 2006 by half a consultant post, a whole pharmacist post and half an administrative post.

Community-based treatment

Diagnosis-prescribing studies are important instruments for deciding if antibiotics are being used rationally. The work of formulating proposed joint definitions and terminology for community-based infection diagnoses continues, as a prerequisite for drawing down data from clinical record systems in a form that will allow comparisons to be drawn throughout the country. In 2007, a computer-based pilot study will be carried out, which is also intended to replace the manual prescribing studies of community-based care previously carried out by Strama.

By analysing data on antibiotic consumption in relation to certain infection diagnoses taken from the register of hospitalised children (age 0–14 yrs) it has been possible to evaluate whether complications of infection have increased as a result of under-treatment with antibiotics. It has not been possible to demonstrate such a risk with the available data. Despite a drop of nearly 50% in antibiotic consumption, the number of children hospitalised with acute mastoiditis, sinusitis and tonsillitis actually fell.

In collaboration with the MPA, Strama arranged a workshop on the treatment of urinary tract infections. A document containing new treatment recommendations is in the process of being finalised.

Strama also took part in a workshop on the use of antibiotics in pregnancy, which also led to new treatment recommendations.

Inpatient care

Work on the network within Strama secondary care, Strama-S, has continued. By means of large point prevalence studies (PPS) in somatic hospital care, unique data have been generated, and this has provided a national overview of the prevalence and distribution of iatrogenic infections, and the use of prophylactic antibiotics. Evaluation of the 2003 and 2005 PPS identified three areas in which prescribing patterns and indications could be improved; the length of surgical prophylaxis, antibiotic selection in community-acquired pneumonia, and diagnosis and treatment choices in lower urinary tract infection.

During the year, a circular was sent to all doctors in secondary somatic care containing information about these three areas of intervention. The effect of these interventions can be evaluated when the final analysis of the latest point prevalence study, PPS 2006, has been made. PPS 2006 was a great success as around 75% of all hospitalised patients in secondary care were included in the study. These three studies encompass data from antibiotic treatment in a total of 13 400 treated patients.

Interventions and in-depth studies

A questionnaire-based study of the attitudes and knowledge of the general public with regard to antibiotic use was carried out during the year. The study was based on 750 telephone interviews, structured according to an interview guide, and consisting of statements with a choice of pre-determined response alternatives. Some of this material has been analysed and shows that 93% of the interviewees had at some time taken antibiotics. The results of the study are being prepared for publication.

Previously collected interview material from general practitioners and hospital doctors concerning their attitudes to antibiotic resistance is also being collated and analysed. Large variations are seen in both groups' views about whether antibiotic resistance is considered to be a serious problem or not. Another qualitative interview study of doctors and their attitude to hand hygiene was also started during the year.

An initial analysis has been made of antibiotic prescribing data from the National Board of Health and Welfare's drug register. The analysis shows that 24% of the Swedish population has cashed a prescription for antibiotics during the period from July 2005 to June 2006. There are large inter-county variations.

Two articles have been published on self-medication (defined as pharmacy purchase without prescription or use of previously prescribed antibiotics during a new illness) with antibiotics in 19 European countries. The project was funded by the EU. The response rate was highest in Sweden and the rate of self medication was, alongside the Netherlands, the lowest. The study also showed that the prescribing of antibiotics influences subsequent self-medication.

Monitoring international scientific publications

About twenty scientific journals and a variety of newsletters in the field of antibiotics are continually monitored. Examples of areas being monitored include interventions in antibiotic use and antibiotic resistance, resistance development, medical and financial consequences of antibiotic resistance, diagnosis of infectious diseases and treatment protocols. Selected studies are sent to Strama's executive committee for information. Studies that provide new knowledge or have other important messages are referenced and commented upon in Strama's electronic newsletter *Strama-nytt*. Five issues came out in 2006.

Clinical trials

The clinical trial that was planned during 2005 was started according to plan in January 2006. The study aims to clarify the optimal duration of treatment of acute pyelonephritis in women. During the year, an "initiation" visit has been made to all 20 participating infectious disease and microbiology

departments in order to examine the study protocol in detail. Seventy-three patients had been included by the end of the year. The study was inspected without reservation by the MPA in November.

Healthcare hygiene

Discussions have taken place between Strama, the NBHW, the SIIDC and the SAIC with the aim of finding structures for the collaboration of national activity in healthcare hygiene. These discussions will continue, and will be guided by the parties' respective roles.

Iva-Strama

The integration of IVA-Strama into SIR, the Swedish Intensive Care Register, has continued. The central collection of data on antibiotic consumption for each ICU has been completed and validated. A demography questionnaire has been revised and now captures data that reflect structural aspects of Swedish intensive care, including incident reports. Microbiological data based on personal identity numbers from 6 laboratories have been imported into SIR and cross-referenced to ICU complications data. This enables analysis of the association between cause of infection, antibiotic resistance, infection-related ICU complications and mortality. Eventually, our ambition is to import microbiological data for all patients in Swedish intensive-care units. This would provide unique opportunities to monitor prospectively risk factors and mortality in ICU-acquired infections, including the significance of antibiotic resistance and antibiotic selection.

Local groups

There are currently 33 local Strama-groups in the country. According to a survey that was carried out in January 2006, 18 groups have organised some Strama activity in hospitals as well. Two contact persons for local groups are included in Strama's executive committee. These act as a channel for continuous dialogue between the executive committee and the groups, and minutes and agendas from the executive committee meetings are distributed to group members.

One million SEK out of the annual budget has been allocated to supporting local projects, which include the following examples:

- Reduced overuse of antibiotics in community care by means of improved diagnosis of viral airway pathogens.
- Evaluation of the clinical utility of pharyngeal PCR *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*.
- The establishment of a rational level of antibiotic prescribing in a population of Swedish children.
- The epidemiology and risk factors for the spread of penicillin-resistant pneumococci (PRP) in nurseries in Skåne.
- Sores, antibiotic treatment, resistant strains and basic hygiene procedures – an evaluation study including five acute hospitals and residential homes in five districts in Skåne, and primary care in North-East Skåne.

Other projects

Data analysis of the material from the study of the extent to which the use of hand disinfection in nursery schools can influence infection patterns in children has demanded a greater amount of work than expected. An initial draft is in the final stages of preparation.

An intervention in Kronoberg County not to prescribe trimethoprim for urinary tract infection was completed in September. The material is currently being analysed, and the first publication is expected to be ready during 2007.

Strama has also contributed to a survey of the prevalence of resistance in bacteria in healthy Swedish dogs and investigation into whether there are healthy dogs that are carriers of MRSA. The study has been carried out by the National Veterinary Institute.

Lectures and symposia

Around 125 people attended the annual meeting for members of local Strama groups. At the meeting, Strama's continuing education package for primary care was presented: prepared presentations and background documentation (current guidelines, meta-analyses, important studies) about otitis, sinusitis, tonsillitis and acute bronchitis. The material was given to all participants for use in local continuing education activity.

Strama, in collaboration with the SIIDC, the NBHW, SALAR and SAIC, arranged a day on the theme "Healthcare-related infections and antibiotic resistance can be controlled". The aim was to assemble a variety of decision-makers within local authority care and the national healthcare service in order to discuss how healthcare-related infections and antibiotic resistance can be prevented within the care of the elderly. Nearly 300 participants from all over the country took part. There was general agreement that the universal application of basic hygiene procedures is probably the single most important measure that can reduce the risk of healthcare-related infection and the spread of resistant bacteria.

At this year's Pharmaceutical Congress, Strama took part with speakers and poster presentations. For the event, the organisers had commissioned an opinion poll that was, at the request of the organisers, commented upon at the congress's press conference by Strama's chairman. Members of Strama's executive committee have, during the year, also spoken at several conferences and educational meetings.

Other activities

Strama's web site is used to disseminate topical information and material. The web site is also used to distribute our newsletter to about a thousand subscribers.

The Swedish Association of Medicine Reference Group on Antibiotics (RAF) represents Strama's expert group on issues related to antibiotics. RAF and Strama have a working group that meets regularly by telephone in order to deal with current issues and to allocate tasks between themselves. Strama pays RAF's scientific officer for this service.

Swedres 2005 was presented in May. This is the fifth consecutive report and it contains data and analyses of Sweden's antibiotic consumption and resistance patterns. This issue was also made in collaboration with the SVARM-report from the National Veterinary Institute.

Strama has started regular discussions with the National Board of Health and Welfare and the Institute for Infectious Disease Control in order to coordinate the work of combating antibiotic resistance.

International activities

The EU-project GRACE continues with its task of studying the treatment of lower respiratory tract infection, and Strama played host to a liaison meeting in October.

During the year, Strama has also continued with its participation in ESAC and the two sub-projects in community-based and inpatient care. Strama-AS has contributed to the latter with the programme that was used in our PPS. A European PPS was carried out in June, with the participation of one hospital from each of 20 countries.

IVA-Strama's web application has been developed further in an EU project, IPSE, Improving Patient Safety in Europe. Data workshops have been held, together with representatives from around 15 countries.

On behalf of Strama

Otto Cars
Chairman

Financial statement for Strama 2006

Revenue	tSEK
Grants received	10 000
Fees received	152
<i>Total revenue</i>	<i>10 152</i>
Costs	
Staff costs	2 363
Administrative costs*	1 791
National and local development projects and research	5 330
Information and education	925
<i>Total costs</i>	<i>10 409</i>
Fees received	- 152
<i>Grants received</i>	<i>10 257</i>
* comprising of costs of premises, inventory, IT, financial management, telephony, mail and printing	