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CUSTOMER ORIENTATION
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- Na Homolce Hospital Benchmarking in 2004
- Operating Efficiency
- Economic Structure of Na Homolce Hospital
Na Homolce Hospital is one of the most modern European hospitals
We provide coverage for the whole Czech Republic in areas that require the latest methods and techniques, particularly in our cardiovascular program and neuroprogram.

We are ready and willing to work with others, both within the hospital and at other centers at home and abroad.

We encourage helpful and correct interpersonal relationships.
## About us

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</tbody>
</table>
INTRODUCTION

Just as in previous years, the health service spent 2004 searching for consensus on a blueprint for a Czech health care system that could be endorsed by all elements of society, and dealing with the instability of its economic base – the public health insurance system. The concept of Czech health care was one of the central themes in the political contest leading up to the Czech Senate and regional elections as well as being the subject of an analysis conducted by the World Bank. The deficit in the funds held by the public health insurance companies more than doubled when compared to 2003 levels and, despite a more than 70% rise in insurance payments, hospitals received a smaller proportion of this money than in previous years. Several specialist and teaching hospitals had to operate on a lower income, despite the fact that the scope of care they provided increased. Despite this situation, and as we have done in previous years, we concentrated on developing the hospital along the lines defined by our mission and on strengthening the three pillars on which Na Homolce stands.

Our goal is to create one of the best specialist hospitals in Europe, providing nationwide coverage of a comprehensive range of diagnostic and therapeutic methods in the fields of cardiovascular diseases and the clinical neurosciences. We have devoted the additional potential of the hospital, lying in the areas of research, international cooperation and commercial activities, to this end. The three main pillars on which Na Homolce Hospital stands are the high quality of care provided, its customer orientation and long-term economic stability.

In the area of improvements to the quality of care and patient safety, two years ago we set out to acquire prestigious certification and accreditation in order to precisely define the level of quality and gradually accustom ourselves to the organization and level of care that is provided as standard in the developed world. We already take the high quality of individual diagnostic and therapeutic operations for granted, the hospital has teams of qualified specialists and state-of-the-art technology. If the level of health care is to be further improved, we must monitor the entire treatment process and eliminate any possible areas where errors or inaccuracies may arise. In the fall of 2004, all our laboratories were awarded ISO 9001 certification and at the end of the year a final pre-audit was conducted by the international accreditation agency, JCIA. Last year the hospital had already fulfilled over 90 % of the prescribed international standards and we expect to receive this recognized accreditation in 2005.

Great efforts were made during 2004 to analyze and subsequently to satisfy the interests of our customers. Not only our patients are regarded as clients of the hospital, but also referring physicians and partner health care institutions. Using information and videoconferencing technologies, we have been able to build a network of health care centers that can share data and video documentation as well as supporting remote direct communications, allowing us to provide more precise consultancy of individual patients.

With all extensive development in the Czech health services put on hold and a clampdown placed on resources allocated to certain areas, it is difficult to maintain economic stability while at the same time expanding the range of care provided and introducing new diagnostic and therapeutic methods. Because of this we introduced austerity measures in 2004, which consisted of reducing the cost of supplies, limiting the cost of external services, stabilizing personnel charges (reducing staff numbers by 10%) and put pressure on “loss-making” departments. At the same time we decided to reduce our investment activities in 2004 in order to support our cash flow at a time when the health
insurance companies were extending their payment terms. This allowed us to forestall any deterioration in our balance of payments to our suppliers. We were able to successfully implement these measures. Despite an increased volume of activities, we were able to significantly reduce staff numbers across the board. Unit hospitalization costs were lowered, despite the fact that our inpatients are more demanding than in previous years. Hospital operating costs were reduced not only in relative terms from 17% to 15% of turnover, but also in absolute values, by 18 million crowns for the year. Na Homolce Hospital again reported a reasonable profit and maintained sufficient financial reserves to enable it to implement a number of substantial projects. In 2005 we aim to further develop our minimally invasive techniques, where we will be assisted by a unique project entailing the establishment of a national center of robotic surgery. Over the year we will also be able to purchase x-ray equipment, which will enable the X-ray department to receive all its images in high-quality digital format. This will represent the culmination of a project that has taken several years and which enables us to check the results of all imaging methods immediately, both within and outside the hospital, without the use of film.

The 2004 results provide a good basis for the further development of Na Homolce Hospital, the attainment of its investment objectives, as well as the possibility of significant increases in remuneration for all groups of employees.

Dr. Oldřich Šubrt, Ph.D., MBA
Managing Director
HOSPITAL MANAGEMENT AND STATUTORY BODIES

Hospital Management

Managing Director
Oldřich Šubrt, M.D., Ph.D., MBA
“We strive to provide the highest quality health care at all times, while maintaining the cost-effectiveness of the services we provide – this is what we understand to be our duty to our patients.”

Deputy Director for Treatment and Preventive Care
Milan Ročeň, M.D.
“Early prevention preserves our patients’ health and the insurance companies’ finances.”

Deputy Director for Finance and Business
Pavel Brůna, M.Sc.
“The task facing health care facilities is to make maximum use of their disposable resources to support the health and quality of life of their patients. To achieve this, the administrative process must place as little as possible, or preferably no burden on the physicians, whose vocation is to provide treatment.”

Deputy Director for Hospital Operations
Jan Kapal, M.Sc.
“We always aspire to have the best available technical equipment – which also makes our “Homolka” a first-class institution.”
Deputy Director for Internal Audit and Control
Iva Rechová, M.Sc.
“Proper, sensible and balanced management creates optimal conditions to support the work of our specialists.”

Deputy Director for Human Resources
Pavel Chyňa, M.Sc.
“The long-term goal guiding everything we do for the personnel is the creation of a team of stable, positively motivated employees, with the appropriate qualifications, experience and ability to perform.”

Deputy Director of Marketing
Slavěna Podloucká, M.Sc., MBA
“We search out and implement the type of projects that can support the physicians and other hospital health care staff in their attempts to improve the quality of their professional work and to build relationships with our clients.”

Head Nurse
Libuše Budská
“Our patients deserve professional and conscientious care, provided with a kind smile; this gives a purpose to our everyday work.”
REPORT BY THE SUPERVISORY BOARD

Chairperson: Milan Fafejta, M. Sc.
Vice Chairperson: Assoc. Prof. Eliška Jelínková, M.S., Ph.D.

Report by the supervisory board on management activities in 2004

The supervisory board of Na Homolce Hospital is empowered by its Memorandum of Association, issued by the Czech Ministry of Health. All provisions of this Memorandum were fully respected by the Board while conducting its activities during 2004. Concrete decisions and recommendations were made with the aim of maintaining the Hospital’s position as a first class health care facility over the long-term.

Dr Miroslava Ouředníková and Mr Petr Sláma joined the Na Homolce Hospital supervisory board as new members in 2004.

The Supervisory Board, composed of the members listed above, met four times during 2004.

The primary function of the supervisory board in 2004 was to monitor management activities while ensuring proper financial control and top quality health care, focusing on the following areas:

- cost, income and investment plans
- achieving these, assessing them and comparing them at an international level,
- the effectiveness of the hospital and related austerity measures,
- the quality and scope of health care,
- dealing with receivables past their due date,
- rules governing payments into the subsidized organizations’ fund
- resolving contractual relations with the Czech General Health Insurance Company
- preparing the hospital for international JCI accreditation.

The Supervisory Board has not found any significant deficiencies in the areas it has controlled and has positively assessed all the indicators listed above.

The Supervisors Board wishes to thank the Managing Director, Dr. Oldřich Šubrt, Ph.D., MBA, members of the executive and all employees of Na Homolce Hospital for the work they performed during 2004.

Milan Fafejta, M.Sc.
Chairperson of the Supervisory Board
## ORGANIZATIONAL STRUCTURE 2004

### Supervisory Board

### Managing Director

<table>
<thead>
<tr>
<th>Treatment and Preventive Care Sector</th>
<th>Finance Division</th>
<th>Hospital Operations Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director for Treatment and Preventive Care</td>
<td>Director of Finance</td>
<td>Director of Hospital Operations</td>
</tr>
<tr>
<td>Hospital Hygiene Officer</td>
<td><strong>Departments</strong></td>
<td><strong>Departments</strong></td>
</tr>
<tr>
<td>Controlling</td>
<td>Economic</td>
<td>Operational and economic management</td>
</tr>
<tr>
<td>Economic</td>
<td>Accountancy</td>
<td>Procurement and storage of non-medical supplies</td>
</tr>
<tr>
<td>Health care economics</td>
<td>Contracts and revisions</td>
<td>Catering</td>
</tr>
<tr>
<td>Analysis</td>
<td>Operational records of assets</td>
<td>Transportation</td>
</tr>
</tbody>
</table>

### Hospital Wards

<table>
<thead>
<tr>
<th>Neuroprogram</th>
<th>Cardiovascular Program</th>
<th>General Medical Care Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology</td>
<td>Cardiology</td>
<td>Internal medicine</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>Cardiac surgery</td>
<td>General surgery</td>
</tr>
<tr>
<td>Stereotactic and radiation neurosurgery</td>
<td>Vascular surgery</td>
<td>Gynecology</td>
</tr>
</tbody>
</table>

### Outpatient Clinics

<table>
<thead>
<tr>
<th>Neurology</th>
<th>Neurosurgery</th>
<th>Stereotactic and radiation neurosurgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>Cardiac surgery</td>
<td>Clinical oncology</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>Internal medicine</td>
<td>Surgery</td>
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<tr>
<td>Clinical oncology</td>
<td>Surgery</td>
<td>Gynecology</td>
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<tr>
<td>Surgery</td>
<td>ENT</td>
<td>Nephrology</td>
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### Common Examination and Treatment Units

<table>
<thead>
<tr>
<th>Radiodiagnostics</th>
<th>Nuclear medicine/PET center</th>
<th>Clinical biochemistry, hematology, immunology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear medicine/PET center</td>
<td>Clinical microbiology and antibiotic center</td>
<td>Pathology</td>
</tr>
<tr>
<td>Clinical biochemistry, hematology, immunology</td>
<td>Central sterilization and hygiene</td>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Clinical microbiology and antibiotic center</td>
<td>Pathology</td>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Pathology</td>
<td>Central sterilization and hygiene</td>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Central sterilization and hygiene</td>
<td>Physiotherapy</td>
<td>Physiotherapy</td>
</tr>
<tr>
<td><strong>Human Resources Division</strong></td>
<td><strong>Internal Audit and Control Division</strong></td>
<td><strong>Marketing Division</strong></td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Director of Human Resources</td>
<td>Director for Internal Audit and Control</td>
<td>Director of Marketing</td>
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<td>Personnel Department</td>
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<td>Salaries Specialist</td>
<td>Performance audit</td>
<td>PR – Press Officer</td>
</tr>
<tr>
<td>Employment and Selection</td>
<td>Internal audit</td>
<td>Production and publicity</td>
</tr>
<tr>
<td>Specialist</td>
<td>Financial control</td>
<td>Marketing of specialized</td>
</tr>
<tr>
<td>Training and Development</td>
<td></td>
<td>programs</td>
</tr>
<tr>
<td>Specialist</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Managing Director's Office</strong></th>
<th><strong>Hospital pharmacy</strong></th>
<th><strong>IT Department</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital pharmacy</td>
<td>Hardware</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analysis unit</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Independent Services</strong></th>
<th><strong>Other Medical Units</strong></th>
<th><strong>Head Nurse's Office</strong></th>
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<tbody>
<tr>
<td>Legal</td>
<td>Hemodialysis Unit</td>
<td>Central Records</td>
</tr>
<tr>
<td>Quality Management</td>
<td>Operating theaters</td>
<td>Central Admissions</td>
</tr>
<tr>
<td>Health and Safety at Work</td>
<td>Industrial medicine</td>
<td>Pediatric Records</td>
</tr>
<tr>
<td></td>
<td>Department of Medical Physics</td>
<td>Patient information service</td>
</tr>
</tbody>
</table>
BASIC CHARACTERISTICS

A specialized health care center with nationwide coverage for neurosurgical and cardiovascular treatment

Neurology/Neurosurgery Program
Comprehensive care for patients suffering from diseases of, or injuries to, the central and peripheral nervous system, as well as diseases of, or injuries to, the spine. The three independent program centers provide a full range of care, from diagnostic services and therapy by conservative methods, through complex neurosurgical operations including radiosurgery and stereotactic surgery, to the latest methods of interventional neuroradiology. Part of the treatment process also covers related physiotherapy and long-term follow-up of patients.

Department of Neurology
Department of Neurosurgery
Department of Stereotactic and Radiation Neurosurgery

Cardiovascular Program
Comprehensive care for patients suffering from diseases of the cardiovascular system, the heart and blood vessels. The three independent program units focus on complex diagnostics and treatment by conservative methods, as well as surgical treatment of cardiac and vascular diseases including interventional radiology. Medical care includes special physiotherapy for patients with diseases of the circulatory system and follow-up of selected groups of patients.

Department of Cardiology
Department of Vascular Surgery
Department of Cardiac Surgery

Program of General Medical Care
A comprehensive range of general health care treatment, supported by a large outpatient department and related wards. The four independent hospital wards within this program offer patients a complete range of diagnostic and therapeutic procedures for diseases related to internal medicine and general surgery, particularly minimally invasive surgery. These are closely linked to the extensive outpatient department with clinics covering individual specializations.

Department of Internal Medicine
Department of Surgery
Department of Gynecology and Minimally Invasive Therapy
Department of ENT/Head and Neck Surgery
### Basic data

<table>
<thead>
<tr>
<th></th>
<th>to 12.31.2003</th>
<th>to 12.31.2004</th>
<th>index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>1,670</td>
<td>1,611</td>
<td>96%</td>
</tr>
<tr>
<td>Beds</td>
<td>357</td>
<td>357</td>
<td>100%</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>16,815</td>
<td>19,406</td>
<td>115%</td>
</tr>
<tr>
<td>Number of interventions</td>
<td>13,491</td>
<td>14,331</td>
<td>106%</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>805,946</td>
<td>1,029,991</td>
<td>128%</td>
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### Number of admissions

<table>
<thead>
<tr>
<th>Program</th>
<th>to 12.31.2003</th>
<th>to 12.31.2004</th>
<th>index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology-Neurosurgery program</td>
<td>4,383</td>
<td>5,038</td>
<td>115%</td>
</tr>
<tr>
<td>Cardiovascular program</td>
<td>7,389</td>
<td>8,297</td>
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<td>General Medical Care program</td>
<td>6,114</td>
<td>6,869</td>
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### Number of beds to 12.31.2004

<table>
<thead>
<tr>
<th>Program</th>
<th>IC beds</th>
<th>total</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Neurology-Neurosurgery program</td>
<td>26</td>
<td>106</td>
<td>30%</td>
</tr>
<tr>
<td>Cardiovascular program</td>
<td>67</td>
<td>147</td>
<td>41%</td>
</tr>
<tr>
<td>General Medical Care program</td>
<td>39</td>
<td>104</td>
<td>29%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>357</td>
<td>100%</td>
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</table>

### Number of admissions 2000-2004

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<tbody>
<tr>
<td>2000</td>
<td>14,026</td>
<td>14,968</td>
<td>15,984</td>
<td>16,815</td>
<td>19,406</td>
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</table>
Number of interventions (including one-day surgery) 2000-2004

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<tbody>
<tr>
<td>2000</td>
<td>10,914</td>
<td>11,357</td>
<td>12,838</td>
<td>13,491</td>
<td>14,331</td>
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</table>

Average length of stay 2000-2004

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.57</td>
<td>6.37</td>
<td>6.58</td>
<td>6.25</td>
<td>5.89</td>
</tr>
</tbody>
</table>

Number of days of treatment 2000-2004

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>92,103</td>
<td>95,273</td>
<td>96,611</td>
<td>105,104</td>
<td>114,207</td>
</tr>
</tbody>
</table>

Breakdown of main diagnoses in 2004

- Neurological-neurosurgical program: 26%
- Cardiovascular program: 43%
- General Medical Care program: 31%
- Muscular and skeletal system: 11%
- Central nervous system: 6%
- Neoplasms: 13%
- Cardiovascular system: 46%
- Digestive system: 7%
- Urinogenital system: 8%
- Other: 10%
Summary of the most frequent diagnoses of in-patients attending the Cardiovascular program in 2004

Diagnosis:

- Chronic ischemic heart disease
- Atherosclerosis of the arteries serving the limbs
- Generalized and undefined atherosclerosis
- Atrial fibrillation and flutter
- Cardiac atherosclerosis
- Occlusion and narrowing of the carotid arteries
- Other forms of chronic ischemic heart disease
- Aneurysm of the abdominal aorta
- Supraventricular tachycardia

Summary of the most frequent diagnoses of in-patients attending the Neuroprogram in 2004

Diagnosis:

- Carpal tunnel syndrome
- Secondary malignant neoplasms of the brain and brain meninges
- Spinal stenosis
- Diseases of the lumbar and other intervertebral disks with radiculopathy
- Diseases of the lumbar and other intervertebral disks with myelopathy
- Benign meningeal neoplasms
- Arteriovenous malformations of the cerebral vessels
- Malignant neoplasm of the frontal cerebral lobe
- Neuralgia of the trigeminal nerve
- Spondylolisthesis

Mortality 2000-2004

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHH</td>
<td>1.9%</td>
<td>2.2%</td>
<td>2.1%</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Neurology</td>
<td>2.2%</td>
<td>2.3%</td>
<td>2.2%</td>
<td>3.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>1.7%</td>
<td>2.1%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Gamma knife</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cardiology</td>
<td>1.4%</td>
<td>1.7%</td>
<td>1.4%</td>
<td>1.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Cardiac surgery</td>
<td></td>
<td></td>
<td>3.2%*</td>
<td>2.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>2.5%</td>
<td>3.4%</td>
<td>2.3%</td>
<td>2.2%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>4.2%</td>
<td>4.3%</td>
<td>2.3%</td>
<td>3.2%</td>
<td>3.0%</td>
</tr>
<tr>
<td>General surgery</td>
<td>1.2%</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Gynecology</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>ENT</td>
<td>0.4%</td>
<td>0.1%</td>
<td>0.6%</td>
<td>0.2%</td>
<td>0.0%</td>
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</table>

* for the period between May 2002 and March 2003
Origin of admitted patients in 2004 by %

### Neurology-Neurosurgery program

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>33</td>
</tr>
<tr>
<td>Central Bohemian region</td>
<td>33</td>
</tr>
<tr>
<td>Bohemia (other regions)</td>
<td>23</td>
</tr>
<tr>
<td>Moravia</td>
<td>11</td>
</tr>
</tbody>
</table>

### Cardiovascular program

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>26</td>
</tr>
<tr>
<td>Central Bohemian region</td>
<td>37</td>
</tr>
<tr>
<td>Bohemia (other regions)</td>
<td>35</td>
</tr>
<tr>
<td>Moravia</td>
<td>2</td>
</tr>
</tbody>
</table>

### General Medical Care program

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>62</td>
</tr>
<tr>
<td>Central Bohemian region</td>
<td>23</td>
</tr>
<tr>
<td>Bohemia (other regions)</td>
<td>13</td>
</tr>
<tr>
<td>Moravia</td>
<td>2</td>
</tr>
</tbody>
</table>
Na Homolce Hospital benchmarking in the Czech Republic

Bed occupancy 2000-2004 (as a %)

<table>
<thead>
<tr>
<th>Year</th>
<th>NHH</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>92</td>
<td>82</td>
</tr>
<tr>
<td>2003</td>
<td>91</td>
<td>73</td>
</tr>
<tr>
<td>2002</td>
<td>93</td>
<td>76</td>
</tr>
<tr>
<td>2001</td>
<td>92</td>
<td>75</td>
</tr>
<tr>
<td>2000</td>
<td>88</td>
<td>74</td>
</tr>
</tbody>
</table>

Average number of days of treatment 2000-2004

<table>
<thead>
<tr>
<th>Year</th>
<th>NHH</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>5.9</td>
<td>8.1</td>
</tr>
<tr>
<td>2003</td>
<td>6.3</td>
<td>8.1</td>
</tr>
<tr>
<td>2002</td>
<td>6.6</td>
<td>8.4</td>
</tr>
<tr>
<td>2001</td>
<td>6.4</td>
<td>8.5</td>
</tr>
<tr>
<td>2000</td>
<td>6.6</td>
<td>8.6</td>
</tr>
</tbody>
</table>
2004 NEWS

JANUARY
New Navision business SW solution installed to handle all the hospital’s economic programs

FEBRUARY
Formation of a Marketing Division divided into a PR and Press Officer Department, a Specialized Program Marketing Department and a Production and Publicity Department

MARCH
Creation of a Center of Excellence in navigational neurosurgery for the Czech Republic and the eastern European region

APRIL
An Oncological Outpatients Clinic was opened to treat and follow up adult patients

MAY
Purchase of a Tandem Heart to provide temporary support to the heart muscle after major heart failure. Enabled through a gift by a patient.

JUNE
Creation of a Center of Excellence for dynamic stabilization of the spine (Bryan, Prestige) for the Czech Republic and the eastern European region. The Na Homolce Hospital Medical Board was established as the highest medical authority to decide on strategic questions affecting the hospital’s development.

Access to health care information and medical records was consolidated through the intranet.

JULY
Creation of a Center of Excellence for non-pharmacological treatment of advanced heart failure by implanted cardioverter-defibrillators for the Czech Republic and the eastern European region.

SEPTEMBER
Creation of an interdisciplinary hospital center for treatment of the aorta.

OCTOBER
Creation of an interdisciplinary hospital center of clinical immunology and allergology.

NOVEMBER
Routine introduction of a system of identity bracelets with barcodes for inpatients.

Barcode identification incorporated into the medical records.

DECEMBER
Gala performance of Gaetano Donizetti’s Lucia di Lammermoor at the State Opera for partners and employees of Na Homolce Hospital.

We showed our solidarity at Christmas. Two of the Na Homolce Hospital medical staff, the surgeon Dr. Stanislav Černohorský and clinical psychologist Dr. Martin Kořán, Ph.D., were members of the first team sent by the Czech Republic to assist those affected by the tsunami disaster in Sri Lanka.
PERSONNEL AND SOCIAL POLICIES

In accordance with the strategy we have adopted, 2004 personnel activities also focused on:

- improving the quality of care provided,
- introducing a customer-oriented approach,
- increasing the effectiveness of work performed.

Following on from NHH’s on-going preparation for JCI accreditation, we complied with JCI requirements by integrating and fully implementing human resource procedures. Key processes primarily involved:

- systemization, i.e. defining the number, professional composition and the required structure of staff qualifications needed to support the scope and quality of work that needs to be performed,
- creating job descriptions for all hospital employees, to define the main tasks to be performed as well as specific clinical tasks, the rights and responsibilities applying to each particular function, qualification requirements and other elements needed to secure high quality job performance,
- a coordinated approach to employment and the selection of new employees, including their training and orientation in order to create an environment that ensures that tasks are carried out in accordance with NHH's needs in terms of their scope and quality,
- continuing employee education and training on an as-needed basis with respect to achieving the goals established by the hospital and making effective use of available resources,
- making periodic assessments of all NHH employees, in accordance with the requirements of the accreditation.

A differentiated approach and an increase in the decision-making powers of supervisory personnel remained important elements of this system.

In order to increase the effectiveness of work performed, 2004 focused on reducing costs in all areas. Aside from reductions in supply and operating costs, this measure also involved reducing salary costs. For the first time in the hospital’s history and after a comprehensive audit, we proceeded with one-off staff cuts. This reduction in staff numbers involved a whole range of measures, from eliminating part-time employees, through ending fixed-term contracts to the actual termination of employees who were superfluous to the current and future running of the hospital. During this process we respected all provisions of the Labor Code, including debating each stage with the unions. Special regard was also paid to the social situation of the employees.

Due to the measures described above, average converted employee numbers fell by 3.6 % in 2004, which enabled us to raise average salaries by 5.7 % while maintaining an overall rise in salary costs of only 1.9 %.

A significant stabilizing factor for employees remains the social program. Money from the Cultural and Social Needs Fund, provided by the employer, is devoted to fulfilling the social, educational, health care and cultural needs of our employees. An employee satisfaction poll found that a large majority of respondents were extremely positive about the NHH employee benefit scheme. Increased attention was paid to the area of preventive health care for employees. More than 12 million crowns were paid out from the CSNF for employee needs in 2004, in accordance with the approved principles governing how the fund can be drawn on.
## Staff numbers

In 2004 Na Homolce Hospital employed 1,610 staff (average numbers) as set out below.

<table>
<thead>
<tr>
<th>Staff categories</th>
<th>Number</th>
<th>%</th>
<th>change from 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>240</td>
<td>14.9</td>
<td>−3</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>7</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>Other graduates and professionals (non-medical)</td>
<td>22</td>
<td>1.4</td>
<td>0</td>
</tr>
<tr>
<td>Nurses</td>
<td>805</td>
<td>50.0</td>
<td>−36</td>
</tr>
<tr>
<td>Other nursing staff</td>
<td>12</td>
<td>0.7</td>
<td>−3</td>
</tr>
<tr>
<td>Assistant nursing staff</td>
<td>141</td>
<td>8.8</td>
<td>+8</td>
</tr>
<tr>
<td>Technical and administrative staff</td>
<td>233</td>
<td>14.5</td>
<td>−6</td>
</tr>
<tr>
<td>Operational and general service staff</td>
<td>150</td>
<td>9.3</td>
<td>−20</td>
</tr>
<tr>
<td>Total staff numbers</td>
<td>1,610</td>
<td>100.0</td>
<td>−60</td>
</tr>
</tbody>
</table>

## Salaries

Na Homolce spent a total of 545,118,160 CZK on salaries in 2004. The average salary rose by 5.7% from 2003 levels and reached 28,206 CZK.

### Average salaries for individual staff categories

<table>
<thead>
<tr>
<th>Staff categories</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>62,693 CZK</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>46,102 CZK</td>
</tr>
<tr>
<td>Other graduates and professionals (non medical)</td>
<td>43,688 CZK</td>
</tr>
<tr>
<td>Nurses</td>
<td>23,128 CZK</td>
</tr>
<tr>
<td>Other nursing staff</td>
<td>16,614 CZK</td>
</tr>
<tr>
<td>Assistant nursing staff</td>
<td>15,217 CZK</td>
</tr>
<tr>
<td>Technical and administrative staff</td>
<td>23,394 CZK</td>
</tr>
<tr>
<td>Operational and general service staff</td>
<td>17,663 CZK</td>
</tr>
</tbody>
</table>


AUDITOR'S CERTIFICATE

The statutory body of the accounting unit is responsible for ensuring that the accounts are maintained, and are comprehensive, transparent and accurate. The duty of the auditor is to prepare a report and to comment on the Statement of Account and the Annual Report, in compliance with Act no. 254/2000 Coll. on auditors and the Chamber of Auditors of the Czech Republic.

On the basis of the accounting procedures we have used, we have not found any significant facts to indicate that the accounts certified by the accounting unit do not provide a true and faithful picture of the object of accounting and the financial status of the unit.

We have verified that the information concerning the audited organization for the period under review, as set out in the Annual Report, conforms to the certified statement of account to 12.31.2004. It is our opinion that this information, in all important respects, is in agreement with the statement of account from which it was taken.

Drawn up in Čelákovice, April 18th, 2004.

ATLAS AUDIT s.r.o.
Tomáš Bartoš
license number 300
We are professionals and provide quality health care in all fields.

We offer fast but gentle methods to diagnose and effectively treat your condition.

We are striving to acquire prestigious international accreditation and certification for top quality health care.

The quality of our work contributes to significant improvements in the quality of life of our patients.
Quality

Clinical Programs - Summary of Activities 25
2004 Quality Management 56
2004 Grants 58
Selection of 2004 publications 72
Teaching activities in 2004 87
CLINICAL PROGRAMS - SUMMARY OF ACTIVITIES

Neurological-neurosurgical program (NEUROPROGRAM)

Department of Neurology

Head of Department: Miroslav Kalina, M.D., Ph.D.

The department focuses on diagnostics and the non-surgical treatment of diseases of the brain, spinal cord, peripheral nerves and muscular apparatus, using special electrophysiological and ultrasonic diagnostic methods. It also provides complex outpatient and ward care in these specialized areas. The department includes an Epilepsy Center, providing specialized outpatient and ward care for patients suffering from epilepsy. It comprises two epilepsy counseling units and an epilepsy monitoring unit (EMU) which, in addition to its other activities, conducts long-term monitoring and selection of patients for epileptosurgical treatment and provides consultancy for neurological centers throughout the Czech Republic. In 2004, 208 patients were admitted to the EMU, of whom 17 were monitored by surgical implantation of electrodes and 39 were referred for epileptosurgical treatment. 2004 also saw the launch of a project for the treatment of epilepsy involving the targeted removal of epileptogenous tissue by stereotactic surgery and 5 patients were treated by this method, which is unique in the Czech Republic. The treatment of epileptic patients over the year was marked by strong interdisciplinary cooperation between the hospital’s neuro-scientific departments and, alongside the Department of Neurology and following established tradition, contributions were made by the Department of Neurosurgery, the Department of Stereotactic and Radiation Neurosurgery, the Department of Radiodiagnostics and the Department of Nuclear Medicine/PET Centrum. Na Homolce is one of three epileptologic and epileptosurgical centers in the Czech Republic, with the highest number of operated patients.

The specialized Intensive Care Unit for the treatment of acute and extremely serious neurological cases also serves as a postgraduate training center for neurological intensive care. During the course of 2004, twelve intra-arterial thrombolyses and seven intravenous thrombolyses were performed, 12 patients with polyradiculoneuritis or suffering from severe myasthenia received comprehensive treatment, including a series of plasmapheroses and full intravenous immunoglobulin treatment.

Outpatient care covers, in addition to the outpatient clinic for the treatment of general neurological disorders, the neurovascular clinic and the spinal counseling unit, which also refers patients for surgical interventions to the spinal canal, as well as the evoked potentials laboratory, the electromyographic laboratory and the transcranial Doppler ultrasound unit.

The Department of Neurology contributed to 2 grant projects in 2004.
Basic data - Department of Neurology

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>33</td>
</tr>
<tr>
<td>Standard</td>
<td>27</td>
</tr>
<tr>
<td>Intensive care</td>
<td>6</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>13</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>54</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>16,079</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>1,376</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>9,539</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>81.5</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Department of Neurology

Head of Department: Vladimír Dbalý, M.D.

In 2004 the Department focused primarily on further developing its complex diagnostic, surgical and follow-up care of patients suffering from diseases of the central and peripheral nervous system. As usual, patient therapy fell into four key areas, namely the neurooncological, neurovascular, epileptosurgical and spinal programs. Aside from these priority programs, the department continued to develop a range of minor neurosurgical specializations, such as neurotraumatology, neurosurgery of the peripheral nerves and functional neurosurgery to ensure that the care provided is comprehensive, high quality and safe for the patients. A total of 2,203 operations were performed during 2004, representing a 10.4% increase on 2003. The department is a national and international center for a number of diagnoses, as testified by the rise in the numbers of foreigners treated. The mortality rate for operated patients was 0.9% in 2004.

In the Neurooncological program, apart from the standard, and for the most part combined treatment of patients, a number of experimental projects were further developed. Alongside the BNCT program (the treatment of malignant primary cerebral tumors using Boron Nuclear Capture Therapy) dynamic progress was made on the TTF project (the treatment of malignant primary cerebral tumors by magnetic field). The Na Homolce Department of Neurosurgery was the first unit in the world to use this method to treat 7 patients and the department has been invited to collaborate internationally in this area and to present its results in the USA, where this method (on the basis of studies carried out by the Na Homolce Department of Neurosurgery, among others) has received FDA approval.

The use of perioperative navigation and functional navigation during cerebral surgery was intensively developed during 2004, which enabled a Center of Excellence in navigated neurosurgery to be opened within the department, serving the Czech Republic and countries in the eastern European region. This Center has already hosted several training sessions for foreign neurosurgeons during 2004.

Under the Neurovascular Program during 2004, the Department of Neurosurgery continued to centralize patients with diseases of the intracra-
nial vessels at Na Homolce Hospital, offering the option of combined treatment of these diseases by open surgery followed by endovascular intervention. Patients with these potentially life-threatening diseases are provided with 24-hour care from a team of experienced specialists. Pre-operative embolization for certain types of cerebral tumors continued to be performed last year. There was a rise in the number of decompressive (relieving) craniectomies performed in association with the Department of Neurology on some types of ischemic cerebrovascular events, as well as in bypass operations between the extra- and intracranial blood supplies. Perioperative Doppler scanning of intracranial arteries was introduced as a new method in 2004.

Na Homolce’s Department of Neurosurgery Epileptosurgical Program is the leader in its field for the Czech Republic. Working together with the Department of Neurology on some types of ischemic cerebrovascular events, as well as in bypass operations between the extra- and intracranial blood supplies. Perioperative Doppler scanning of intracranial arteries was introduced as a new method in 2004.

Treatment of chronic pain was further developed in partnership with the Anesthesiology and Resuscitation department (neurostimulation of the spinal cord.)

Within the framework of the Spinal Program, Na Homolce’s Department of Neurosurgery has been ranked for several years now as one of the most successful and active neurosurgical centers in the Czech Republic. Surgery is performed on the whole length of the spine using all access paths to treat degenerative diseases as well as injured and oncological patients. So called “minimally invasive” spondylosurgery, using navigational or transcutaneous techniques is by far the preferred method. 2004 witnessed intensive development in dynamic stabilization procedures not only for the cervical, but also for the lumbar vertebral column. Last year Na Homolce’s Department of Neurosurgery became a Center of Excellence in neurosurgery for the dynamic stabilization of the cervical spine (Bryan, Prestige) for the Czech Republic and countries in the eastern European region.

One grant project was completed by the Department of Neurosurgery in 2004.

### Basic data - Department of Neurosurgery

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>65</td>
</tr>
<tr>
<td>Standard</td>
<td>45</td>
</tr>
<tr>
<td>Intensive care</td>
<td>8</td>
</tr>
<tr>
<td>Intermediary</td>
<td>12</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>17</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>84</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>10,679</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>2,777</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>20,623</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>93.2</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>8.1</td>
</tr>
</tbody>
</table>
The clinical activity of the department is focused on the non-invasive radiosurgical treatment of certain types of cerebral tumors, cerebral vascular malformations and functional diseases of the brain using the Leksell gamma knife as well as stereotactic and functional neurosurgery. The outpatient clinic, in addition to providing consultation and follow-up care for the department’s neurosurgical patients, also provided chemotherapy for patients with oncological diseases and specialized ophthalmologic care.

In 2004 the number of patients treated in the department increased by 7% as compared to 2003. The total number of surgical interventions performed in the department exceeded 1,000 (including Leksell gamma knife irradiation and other surgical interventions) and neurostimulators were implanted in seventeen patients. In 2004 the department collaborated with the 1st Medical Faculty of Charles University to consolidate a team of specialists for invasive treatment of extrapyramidal disorders. Patients with temporal epilepsy were also treated for the first time by the targeted elimination of epileptogenic tissue using stereotactic surgery. This unique method was used to treat five patients for the first time ever in the Czech Republic.

A small number of patients from Slovakia continue to be treated in the department and these made up 2.5% of all those treated in 2004. As has become traditional, among the patients irradiated by the Leksell gamma knife in 2004 were patients from the Ukraine, who were offered this treatment free under the terms of a tripartite agreement between Na Homolce Hospital, the Charta 77 Foundation and the Ukraine (ten children) and those who received the same conditions as Czech patients (ten adults).
In 2004 we continued to work in association with the Střešovice UVN Eye Clinic on a grant-funded project to study the effects of treating the early stages of glaucoma by Leksell gamma knife and the influence of Leksell gamma knife irradiation on the progress of age-influenced macular degeneration. We are the only unit to use this method in the world. Both projects are supported by the Elektra company. The number of patients with ophthalmologic referrals for irradiation by the Leksell gamma knife made up 10.6% of all referrals last year.

The Department of Stereotactic and Radiation Neurosurgery is the only center of its kind in the Czech Republic and the Eastern European region. The quality of its work and the range of its experience have ranked it among the foremost centers of its type worldwide.

Two grant projects were completed by the Department of Stereotactic and Radiation Neurosurgery in 2004.

---

### Basic data - Department of Stereotactic and Radiation Neurosurgery

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of beds</strong></td>
<td></td>
</tr>
<tr>
<td>short stay</td>
<td>8</td>
</tr>
<tr>
<td><strong>Number of physicians</strong></td>
<td>6</td>
</tr>
<tr>
<td><strong>Number of other college graduates</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Number of nurses</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>Number of patient admissions</strong></td>
<td>1,447</td>
</tr>
<tr>
<td><strong>Number of operations carried out using the Leksell gamma knife</strong></td>
<td>856</td>
</tr>
<tr>
<td><strong>Number of other stereotactic operations</strong></td>
<td>210</td>
</tr>
<tr>
<td><strong>Number of days of treatment</strong></td>
<td>1,486</td>
</tr>
<tr>
<td><strong>Average length of stay (in days)</strong></td>
<td>1.03</td>
</tr>
<tr>
<td><strong>Number of outpatient examinations</strong></td>
<td>2,245</td>
</tr>
<tr>
<td><strong>Number of written outpatient consultations</strong></td>
<td>890</td>
</tr>
<tr>
<td><strong>Number of patients visiting the oncological clinic</strong></td>
<td>565</td>
</tr>
<tr>
<td><strong>Number of patients visiting the eye clinic</strong></td>
<td>395</td>
</tr>
<tr>
<td><strong>Number of neurophysiological examinations</strong></td>
<td>222</td>
</tr>
</tbody>
</table>

---

### Number of patients treated using the Leksell gamma knife from 2000 to 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>566</td>
<td>735</td>
<td>781</td>
<td>803</td>
<td>856</td>
</tr>
</tbody>
</table>
### Radiosurgical treatment by Leksell gamma knife in 2003 broken down by individual diagnosis

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant tumors of the brain</td>
<td>34%</td>
<td>30%</td>
<td>31%</td>
<td>33%</td>
<td>32%</td>
</tr>
<tr>
<td>Benign tumors of the brain</td>
<td>41%</td>
<td>34%</td>
<td>37%</td>
<td>39%</td>
<td>36%</td>
</tr>
<tr>
<td>Functional diseases of the brain</td>
<td>14%</td>
<td>16%</td>
<td>14%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Vascular malformations of the brain</td>
<td>11%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Eye referrals</td>
<td>11%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>11%</td>
</tr>
</tbody>
</table>

### NEUROPROGRAM 2000–2004

#### Development in the numbers of Neuroprogram patient admissions

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma knife</td>
<td>669</td>
<td>815</td>
<td>788</td>
<td>768</td>
<td>1,447</td>
</tr>
<tr>
<td>Neurology</td>
<td>866</td>
<td>1,042</td>
<td>970</td>
<td>1,145</td>
<td>1,376</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>2,112</td>
<td>2,226</td>
<td>2,402</td>
<td>2,470</td>
<td>2,777</td>
</tr>
<tr>
<td>Total</td>
<td>3,647</td>
<td>4,083</td>
<td>4,160</td>
<td>4,383</td>
<td>5,600</td>
</tr>
</tbody>
</table>

#### Development in the numbers of Neuroprogram outpatient examinations

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma knife</td>
<td>2,212</td>
<td>2,583</td>
<td>2,544</td>
<td>2,553</td>
<td>2,245</td>
</tr>
<tr>
<td>Neurology</td>
<td>13,333</td>
<td>1,042</td>
<td>14,115</td>
<td>15,755</td>
<td>16,079</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>7,318</td>
<td>7,913</td>
<td>9,020</td>
<td>9,559</td>
<td>10,679</td>
</tr>
<tr>
<td>Total</td>
<td>22,863</td>
<td>24,150</td>
<td>25,679</td>
<td>27,867</td>
<td>29,003</td>
</tr>
</tbody>
</table>
Cardiovascular program

Department of Cardiology

Head of Department:  
Associate Professor Petr Niederle, M.D., Ph.D.

The clinical activities of the department cover the complete spectrum of preventive, diagnostic and therapeutic methods for patients with diseases of the heart and blood vessels, or with a high risk of incurring these diseases. Just as in previous years, the department provided full coverage of several individual specialized areas in 2004. **Acute cardiology** along with its coronary unit is devoted to the examination and intensive care of patients suffering from acute and severe conditions and the monitoring of their essential vital functions. Last year 905 patients were admitted. In 2004 the unit was equipped with a TANDEM HEART machine for temporary cardiac support of patients suffering from critical failure of the circulatory system. This was a gift from a patient and is the only one of its kind in the Czech Republic. **Invasive cardiology** also covers cardiac electrophysiology, particularly the diagnostics and treatment of cardiac rhythm disorders. Na Homolce Hospital has been the largest European center in this field over the long term and last year a total of 3,679 diagnostic and therapeutic interventions were performed, including the implantation of pacemakers and defibrillators, radiofrequency ablations and other types of intervention. In 2004 a new treatment method was introduced for patients referred for atrial fibrillation, using the PLAATO system to occlude the left atrial appendage. During the same period, a program was introduced to prevent sudden cardiac arrest in patients after myocardial infarct and with severe disfunctions of the left ventricle, by implanting cardioverter-defibrillators in accordance with the MADIT II criteria.

**Non-invasive cardiology** continued to offer a steep rise in invasive cardiologic examinations, particularly coronarographies with an annual total of 2,817 as well as the implantation of stents where the total was 1,201.

---

**Basic data - Department of Cardiology**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>52</td>
</tr>
<tr>
<td>standard</td>
<td>30</td>
</tr>
<tr>
<td>intensive care</td>
<td>18</td>
</tr>
<tr>
<td>intermediate</td>
<td>4</td>
</tr>
<tr>
<td>Day care clinic</td>
<td>4</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>24</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>96</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>28,136</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>4,592</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>17,606</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>93.9</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>3.83</td>
</tr>
</tbody>
</table>
patients a wide range of diagnostics of cardiovascular diseases during this period, including ultrasound, electrocardiography stress tests and echocardiograms, as well as long-term monitoring of cardiac rhythm and blood pressure, among others. A new method of tissue Doppler echocardiography was introduced for use on patients suffering chronic heart failure and undergoing resynchronization therapy. Clinical cardiology traditionally covers diagnostics and treatment of cardiovascular diseases both in hospital wards as well as specialized outpatient clinics, and shared in providing the final treatment and physiotherapy for acute conditions and in the treatment of chronic diseases of the circulatory system.

The hospital-wide heart failure program entailed the inclusion in the Department of Cardiology of a specialized heart failure unit, which carried out continuous monitoring of patients with heart failure and cared for patients at a less advanced stage of the disease. In 2004, a total of 130 patients were monitored.

In 2004, the Department of Cardiology continued in its work on the BARI 2D multicentric study, in which Na Homolce is the only European center to participate.

### Specialized interventions in 2004

**Angiography Center**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronarography (SKG)</td>
<td>2,817</td>
</tr>
<tr>
<td>Ventriculography (LVG)</td>
<td>1,158</td>
</tr>
<tr>
<td>Right-side angiocardiology</td>
<td>1</td>
</tr>
<tr>
<td>Pulmonary artery angiography</td>
<td>1</td>
</tr>
<tr>
<td>Catheterization R</td>
<td>12</td>
</tr>
<tr>
<td>Catheterization R-L</td>
<td>284</td>
</tr>
<tr>
<td>Coronary angioplasty (PTCA)</td>
<td>987</td>
</tr>
<tr>
<td>Direct angioplasty (AIM)</td>
<td>341</td>
</tr>
<tr>
<td>Stents</td>
<td></td>
</tr>
<tr>
<td>number of patients</td>
<td>891</td>
</tr>
<tr>
<td>number of stents</td>
<td>1,201</td>
</tr>
<tr>
<td>Bulbus aortography</td>
<td>196</td>
</tr>
<tr>
<td>Alcohol septal ablation</td>
<td>3</td>
</tr>
<tr>
<td>Occlusion of ventricular septal defect (Amplatz)</td>
<td>8</td>
</tr>
<tr>
<td>Intracoronary ultrasound</td>
<td>7</td>
</tr>
<tr>
<td>Other angiographies</td>
<td>399</td>
</tr>
<tr>
<td>Complications</td>
<td></td>
</tr>
<tr>
<td>fatal</td>
<td>4 (AIM) (0.2%)</td>
</tr>
</tbody>
</table>
Outpatient clinics

<table>
<thead>
<tr>
<th>Service</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General cardiology</td>
<td>9,270</td>
</tr>
<tr>
<td>Pacemakers</td>
<td>7,373</td>
</tr>
<tr>
<td>Angiology</td>
<td>3,580</td>
</tr>
<tr>
<td>Heart failure clinic</td>
<td>2,543</td>
</tr>
</tbody>
</table>

Electrophysiology Center in 2004

<table>
<thead>
<tr>
<th>Service</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary implantation and exchange of pacemakers</td>
<td>887</td>
</tr>
<tr>
<td>Electrophysiology</td>
<td>1,724</td>
</tr>
<tr>
<td>Implantation and reimplantation of ICDs</td>
<td>212</td>
</tr>
<tr>
<td>Biventricular stimulation</td>
<td>157</td>
</tr>
<tr>
<td>RF ablations in total</td>
<td>516</td>
</tr>
<tr>
<td>Extraction of electrodes</td>
<td>87</td>
</tr>
<tr>
<td>Right ventricle biopsy</td>
<td>31</td>
</tr>
<tr>
<td>Implantation of IV port for the administration of drugs</td>
<td>3</td>
</tr>
<tr>
<td>Implantable arrhythmia monitor (REVEAL)</td>
<td>11</td>
</tr>
<tr>
<td>Spinal neurostimulation</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>3,679</td>
</tr>
<tr>
<td>Complications</td>
<td></td>
</tr>
<tr>
<td>Pneumothorax</td>
<td>17 (0.46%)</td>
</tr>
<tr>
<td>Hemothorax</td>
<td>1 (0.03%)</td>
</tr>
<tr>
<td>A-V fistula</td>
<td>3 (0.08%)</td>
</tr>
<tr>
<td>Perforations, electrode penetrations</td>
<td>2 (0.06%)</td>
</tr>
<tr>
<td>fatal</td>
<td>2 (0.06%)</td>
</tr>
</tbody>
</table>

Non-invasive cardiology

<table>
<thead>
<tr>
<th>Service</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Echocardiography</td>
<td>4,858</td>
</tr>
<tr>
<td>esophagus examination</td>
<td>510</td>
</tr>
<tr>
<td>dobutamine load</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>5,370</td>
</tr>
<tr>
<td>ECG stress test</td>
<td>640</td>
</tr>
<tr>
<td>Holter ECG</td>
<td>1,628</td>
</tr>
<tr>
<td>Blood pressure monitoring</td>
<td>1,248</td>
</tr>
<tr>
<td>TT test</td>
<td>4</td>
</tr>
<tr>
<td>Spiroergometry</td>
<td>12</td>
</tr>
<tr>
<td>Six minute walking test</td>
<td>225</td>
</tr>
</tbody>
</table>
Department of Vascular Surgery

Head of Department: Pavel Šebesta, M.D., Ph.D.

The department deals with surgical and angioradiological invasive diagnostics and treatment of diseases of the vascular system, primarily the narrowing or complete occlusion of the vessels as a result of atherosclerosis. It is the only center of its type, with nationwide coverage of complex cardiovascular problems, ranging from radical replacement of the thoraco-abdominal aorta to palliative interventions such as radiofrequency sympathectomy. 2004 saw a further increase in the numbers of surgical and endovascular interventions. The range of surgical interventions, just as in previous years, covers operations on the arteries supplying the brain, which have long constituted the largest group of operations, operations on the thoracic and abdominal aorta including surgical and endovascular treatment of aneurysms, where the number of interventions, including the implantation of stents for abdominal aneurysms, registered a slight increase during the period under review, as well as the reconstruction of the pelvic arteries and the arteries serving the lower limbs. The number of referred reoperations performed for the most serious complications (endangered limbs, advanced infections of vascular prostheses) also rose in 2004.

In association with the Department of Cardiac Surgery and the Department of Radiodiagnostics, we initiated an interdisciplinary program of care for patients with complex disorders of the aortic arch, primarily focusing on endovascular treatment of these diseases.

Na Homolce Hospital’s Department of Vascular Surgery serves as a training center in vascular surgery for postgraduate studies at the Institute of Health Care Postgraduate Education. It also functions as a specialized consultancy for acute and complicated angiosurgical cases.

Basic data - Department of Vascular Surgery

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>61</td>
</tr>
<tr>
<td>standard</td>
<td>36</td>
</tr>
<tr>
<td>intensive care</td>
<td>11</td>
</tr>
<tr>
<td>intermediary</td>
<td>14</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>21</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>90</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>11,763</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>2,743</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>7.21</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>19,764</td>
</tr>
<tr>
<td>Bed occupancy rate (as a %)</td>
<td>93.5</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>7.21</td>
</tr>
</tbody>
</table>
Head of Department: Štěpán Černý, M.D., Ph.D.

The Department of Cardiac Surgery deals with complex surgical treatment of heart disease and the major endothoracic vessels. Its activities also cover outpatient monitoring of selected groups of patients before and after surgical intervention. 2004 was the second full year of existence for Na Homolce’s Cardiac Surgery department which now has fully-equipped premises and a complete team of staff.

The scope of cardiosurgical operations last year reflected the range of these interventions throughout the Czech Republic, though their breakdown reveals a slight tendency for the department to specialize in valvular surgery, which makes up 31% of the unit’s operations. During the course of 2004 a total of 840 cardiosurgical interventions were performed, including implanting epicardial stimulation systems. The program of surgical maintenance of the mitral valves and reconstruction of the left ventricle was further developed, while the ratio of mitral valvuloplasty reached 72.5% of the total number of mitral interventions. The unit worked in association with the Department of Cardiology for the successful development of the program of perioperative cryoablations in patients with chronic atrial fibrillation during the period under review, when 99 patients were treated using this method. Na Homolce currently performs the highest number of these interventions in the Czech Republic.

Working together with the Department of Cardiac Surgery and the Department of Radiodiagnostics, an interdisciplinary program of care for patients with complex disorders of the aortic arch, primarily focusing on the endovascular treatment of these diseases, was initiated.
Basic data - Department of Cardiac Surgery

Number of beds 34
  standard 14
  intensive care 7
  semi-intensive 13
Number of physicians 16
Number of nurses 75
Number of outpatient examinations 1,714
Number of patient admissions 840
Number of days of treatment 10,436
Bed occupancy (as a %) 85.5
Average length of stay (in days) 10.85

Breakdown of surgical interventions in 2004

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated aortocoronary reconstructions</td>
<td>490</td>
</tr>
<tr>
<td>Combined aortocoronary reconstructions (EACI, MAZE etc)</td>
<td>27</td>
</tr>
<tr>
<td>Coronary valve replacement/reconstruction</td>
<td>255</td>
</tr>
<tr>
<td>Isolated operations on the ascending aorta and the aortic arch</td>
<td>34</td>
</tr>
<tr>
<td>Epicardial stimulator electrode implants</td>
<td>23</td>
</tr>
<tr>
<td>Miscellaneous (myxoma, pericardectomy, PM extraction)</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>840</strong></td>
</tr>
<tr>
<td>MAZE operations (combined with ACB and valvular surgery)</td>
<td>99</td>
</tr>
<tr>
<td>Acute and emergency operations</td>
<td>122</td>
</tr>
<tr>
<td>Planned operations</td>
<td>718</td>
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</tbody>
</table>
### Cardiovascular Program 2000-2004

#### Development in the numbers of Cardiovascular Program patient admissions

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Surgery</td>
<td>312</td>
<td>322</td>
<td>325</td>
<td>669</td>
<td>840</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>2,380</td>
<td>2,400</td>
<td>2,884</td>
<td>2,736</td>
<td>2,743</td>
</tr>
<tr>
<td>Cardiology</td>
<td>2,982</td>
<td>3,058</td>
<td>3,972</td>
<td>3,984</td>
<td>4,592</td>
</tr>
<tr>
<td>Total</td>
<td>5,674</td>
<td>5,780</td>
<td>7,181</td>
<td>7,389</td>
<td>8,175</td>
</tr>
</tbody>
</table>

#### Development in the numbers of Cardiovascular Program outpatient examinations

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Surgery</td>
<td>439</td>
<td>452</td>
<td>487</td>
<td>1,440</td>
<td>1,714</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>9,722</td>
<td>9,793</td>
<td>10,463</td>
<td>11,516</td>
<td>11,763</td>
</tr>
<tr>
<td>Cardiology</td>
<td>23,241</td>
<td>24,988</td>
<td>28,561</td>
<td>29,059</td>
<td>28,136</td>
</tr>
<tr>
<td>Total</td>
<td>33,402</td>
<td>35,233</td>
<td>39,511</td>
<td>42,015</td>
<td>41,613</td>
</tr>
</tbody>
</table>
General Medical Care Program

Department of Internal Medicine

Head of Department:
Associate Professor Jan Kábrt, M.D., Ph.D.

The department’s activities consist of ensuring preventive, diagnostic and conservative treatment for diseases of an internal nature, with important sub-specializations in the areas of artificial nutrition and metabolic care, gastroenterology, diabetology, endocrinology and pneumology. The intensive care unit is dedicated to patients suffering from acute internal diseases. The care provided during 2004 included the conservative treatment of diseases of the kidneys and urinary system, which the Department of Internal Medicine provided in collaboration with the Department of Nephrology, as well as care of patients suffering from diseases of the sanguificant/immune system provided in association with the Clinical Immunology unit. Care of oncological patients was also initiated during the period under review, in association with the newly constituted Oncological outpatient clinic. National specializations over the past year have primarily focused on the care of patients with functional disorders of the small intestine, who require long-term artificial nutrition, as well as the use of endosonography for the diagnosis and treatment of diseases of the digestive tract and the recent use of autofluorescent bronchoscopy for patients with pulmonary problems. The number of endosonographic examinations rose significantly compared to 2004 and showed the importance of the gastroenterological unit. The complete reconstruction of the intensive care unit led to a significant increase in the number of patients treated here for acute internal diseases in 2004.

Basic data - Department of Internal Medicine

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>29</td>
</tr>
<tr>
<td>standard</td>
<td>21</td>
</tr>
<tr>
<td>intensive care</td>
<td>8</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>24</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>49</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>40,802</td>
</tr>
<tr>
<td>internal medicine outpatient clinic</td>
<td>25,887</td>
</tr>
<tr>
<td>gastroenterological examinations</td>
<td>14,915</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>1,228</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>9,714</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>93.6</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>7.91</td>
</tr>
</tbody>
</table>
Head of Department: Eva Helmichová, M.D., Ph.D.

The Department of Clinical Oncology was opened in Na Homolce Hospital on April 1st, 2004 and, over the year it has gradually developed its activities, which focus on the treatment and follow up of adult patients with solid malignant tumors. It was created with a stable team of specialists in the onco-surgical, oncointernal and oncogynecological fields, who participate in the diagnostics, treatment and subsequent follow up of patients through the hospital, including providing treatment for pain. Patients are provided with systemic outpatient treatment – chemotherapy and hormonal therapy, followed by support treatments that include follow up post-operative rehabilitation. Depending on the type of disease, Na Homolce Hospital has also provided care to oncological patients together with the General Teaching Hospital and the Institute of Hematology and Blood Transfusions, the Vinohrady and Pilsen Teaching Hospitals. In 2004 it worked in association with Pilsen Teaching Hospital’s Radiotherapy and Oncology Clinic to develop a research project to follow markers of biological activity in colorectal carcinoma and on the Pilsen Pittsburgh EOF project – Immunological alterations in the lungs of smokers and patients with lung malignancies.

Basic data - Department of Oncology

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of physicians</td>
<td>2</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>3</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>5,157</td>
</tr>
<tr>
<td>Number of cycles of chemotherapy applied</td>
<td>885</td>
</tr>
<tr>
<td>complications entailing emergency admission</td>
<td>6</td>
</tr>
</tbody>
</table>
Department of Surgery

Head of Department: Pavel Beňo, M.D.

The department provides a wide spectrum of services covering diagnostics and surgical treatment in the areas of general surgery, orthopedics and urology, while the outpatient clinic also includes counseling centers for mammology, phlebology, abdominal surgery and bariatric surgery, an orthopedic outpatients clinic, a urological clinic and a clinic for minor surgical interventions.

In the field of general surgery, as in previous years, abdominal and thoracic surgery was performed using minimally invasive methods in all areas of laparoscopic surgery and one-day surgery was prioritized. Care continued to be provided in oncological surgery of the digestive system and mammology. In 2004, the surgical team performed the standard range of interventions, primarily using intraoperative radiofrequency ablation methods for the treatment of liver metastases in colorectal carcinoma as well as laparoscopic IPOM and TAPP reconstructions of inguinal and frontal hernia, particularly in one-day surgery. Surgery of inguinal hernia using PHS mesh was introduced and 2004 saw intensive progress being made in the field of bariatric surgery (for morbid obesity) using gastric bypass techniques and an adjustable gastric band. Operations for anal prolapse and hemorrhoids using the Long surgical techniques have been performed routinely in the department for several years now and during the period under review it was the only unit in the Czech Republic to be included in the General Health Insurance Company pilot study. The surgery department was also the only center in the Czech Republic last year to perform Collis reconstruction for brachyesophagus in an operation for esophageal reflux with single cavity access. Laparoscopic surgery was extended to cover the most demanding interventions on the colon, rectum and gastrointestinal tract using the harmonic scalpel.

Orthopedic operations last year including the total replacement of joints, including shoulder and ankle joints, as well as the reimplantation of joints. The orthopedic navigational system was routinely used for surgery on large joints during 2004. The orthopedic unit last year con-

Basic data - Department of Surgery

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of beds</strong></td>
<td>31</td>
</tr>
<tr>
<td>standard</td>
<td>26</td>
</tr>
<tr>
<td>intensive care</td>
<td>5</td>
</tr>
<tr>
<td><strong>Number of physicians</strong></td>
<td>17</td>
</tr>
<tr>
<td><strong>Number of nurses</strong></td>
<td>42</td>
</tr>
<tr>
<td><strong>Number of outpatient examinations</strong></td>
<td>42,705</td>
</tr>
<tr>
<td><strong>Number of patient admissions</strong></td>
<td>2,408</td>
</tr>
<tr>
<td><strong>Number of surgical interventions</strong></td>
<td>2,576</td>
</tr>
<tr>
<td>minor outpatient interventions</td>
<td>1,056</td>
</tr>
<tr>
<td><strong>Number of days of treatment</strong></td>
<td>10,851</td>
</tr>
<tr>
<td><strong>Bed occupancy rate (%)</strong></td>
<td>98.48</td>
</tr>
<tr>
<td><strong>Average length of stay (in days)</strong></td>
<td>4.51</td>
</tr>
</tbody>
</table>
inudi to implant total bilateral endoprostheses of the ankle joints and made further developments in modern methods of hallux surgery (Swanson endoprostheses in the hallux rigidus and Stoffel osteotomy in the hallux vagus). Utilization of a bone bank allowed progress to be made in a wide range of orthopedic and elective traumatological operations and other minimally invasive surgical techniques.

**Urological operations** included, as in previous years, open and endoscopic surgery on the urinary system, including urological oncosurgery, using minimally invasive laparoscopic, cystoscopic and uretherorenoscopic surgical techniques. The range of operations carried out also included ultrasound guidance of punctures to the affected retroperitonea, as well as complex diagnostics and treatment of erectile disfunctions and endoscopic reconstruction for incontinence. Routine interventions included endoscopic urethrotomy and ureterorenoscopy.

### Number of outpatient examinations 2004

<table>
<thead>
<tr>
<th>Service</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>25,601</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>10,358</td>
</tr>
<tr>
<td>Urology</td>
<td>6,746</td>
</tr>
<tr>
<td>Total</td>
<td>42,705</td>
</tr>
</tbody>
</table>

### Number of surgical interventions in 2004

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoplasms</td>
<td>298</td>
</tr>
<tr>
<td>Diseases of the digestive system</td>
<td>968</td>
</tr>
<tr>
<td>Orthopedic disorders</td>
<td>346</td>
</tr>
<tr>
<td>Urological disorders</td>
<td>218</td>
</tr>
<tr>
<td>Benign tumors</td>
<td>89</td>
</tr>
<tr>
<td>Other conditions</td>
<td>489</td>
</tr>
</tbody>
</table>

### Number of surgical interventions in 2004

<table>
<thead>
<tr>
<th>Service</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>1,689</td>
</tr>
<tr>
<td>Urology</td>
<td>314</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>573</td>
</tr>
<tr>
<td>Minor outpatient interventions</td>
<td>1,056</td>
</tr>
</tbody>
</table>
Department of Gynecology and Minimally Invasive Surgery

Head of Department:
Pavel Bartoš, M.D., M. MED.

The services provided by the department include the diagnosis and surgical treatment of gynecological diseases. The complete spectrum of pelvic and gynecological surgery was concentrated into five clinical programs in 2004.

The Oncological and Oncolaparoscopic program includes classical, laparoscopic, laparoscopically assisted and laparovaginal surgery for malignant tumors of the cervix, ovaries, endometrium and vulva. In 2004, in addition to the standard oncoinstruments, the operating theaters were equipped with state-of-the-art supporting and rotating laparoscopic equipment enabling modern operating procedures, as well as a cutaneous ultra-sound aspiration dissector (CUSA), which resulted in significant improvements in the speed and precision of oncologaroscopic interventions.

A total of 131 radical operations were performed on gynecological carcinomas. The Department of Gynecology and Minimally Invasive Therapy is the headquarters of the Secretariat and Presidency of the Czech Society for Gynecologic Endoscopy and Pelvic Surgery (CSGE) and an accredited center for gynecological oncosurgery (CSGE).

Urogynecological and reconstructive surgery covers surgical treatment of incontinence and complex surgical procedures for cases of pelvic organ prolapse and incontinence, where emphasis is placed on finding a laparoscopic solution to the problems which arise. 287 patients were operated on for problems related to complex urogenital prolapse using reticulate implants. A procedure referred to as laparoscopic global repair was standardized in 2003 and subsequently adopted by other gynecological centers in the Republic. The department is an accredited center in this area for the treatment of urethropexy incontinence by universal access (an ESGE multi-centric study).

Complex diagnostics and endometriosis surgery offers patients from throughout the Czech Republic a comprehensive treatment program comprising laparoscopic radical surgery, a predictive histological diagnosis of growth factors and subsequent hormonal treatment with a final check up to verify its success. The depart-

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Basic data - Department of Gynecology and Minimally Invasive Surgery

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>26</td>
</tr>
<tr>
<td>standard</td>
<td>20</td>
</tr>
<tr>
<td>intensive care</td>
<td>6</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>10</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>22</td>
</tr>
<tr>
<td>Number of outpatient examinations</td>
<td>23,650</td>
</tr>
<tr>
<td>Total number of surgical interventions</td>
<td>2,341</td>
</tr>
<tr>
<td>of which minor operations</td>
<td>911</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>8,062</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>92.6</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>3.85</td>
</tr>
</tbody>
</table>
The department specializes in diagnostics and conservative and surgical treatment of diseases of the ears, nose and throat. Surgical interventions in 2004 included what is referred to as one-day surgery, as well as a complete range of head and neck surgery, concentrating on comprehensive oncological ENT surgery, cophosurgical interventions, surgery to the nose and paranasal cavities including endoscopic interventions, complex surgery on the thyroid gland, adenotomy, as well as reconstructive surgery in the area of the head and neck, microsurgery on the larynx, operations to the soft tissues of the head and neck and surgery after injuries to the facial bones.
The department’s outpatient clinic again provided a comprehensive range of services during 2004, including specialized counseling in oncology, otoneurology, cophosurgery, otoprosthetics, a rhinology clinic, a clinic for thyroid disorders, a counseling service for sleep and snoring disorders, a clinic for corrective nose surgery and a pain treatment clinic. The department also has a specialized pediatric practice.

### Number of surgical interventions in 2004

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major surgical interventions</td>
<td>1,430</td>
</tr>
<tr>
<td>for malignant tumors</td>
<td>131</td>
</tr>
<tr>
<td>Minor surgical interventions</td>
<td>911</td>
</tr>
</tbody>
</table>

### Department of ENT / Head and Neck Surgery

Head of Department: Jan Paska, M.D.

The department specializes in diagnostics and conservative and surgical treatment of diseases of the ears, nose and throat. Surgical interventions in 2004 included what is referred to as one-day surgery, as well as a complete range of head and neck surgery, concentrating on comprehensive oncological ENT surgery, cophosurgical interventions, surgery to the nose and paranasal cavities including endoscopic interventions, complex surgery on the thyroid gland, adenotomy, as well as reconstructive surgery in its state-of-the-art surgical equipment. The department is now one of the best equipped centers for laparoscopic radical and advanced operations in the Czech Republic.

Overall, the number of surgical interventions rose to 2,341 operations in 2004, of which 75%, including oncological interventions, were performed laparoscopically or hysteroscopically, i.e. by what are referred to as minimally invasive methods.

In 2004 the department organized the 6th International Congress of Gynecological Laparoscopy, which was attended by almost 300 delegates and a number of foreign lecturers. The department also organized two national workshops on urogynecological and oncosurgical programs featuring direct broadcasts from the operating theaters.
The Department of Nephrology provides non-stop nephrological care and an entire range of hemopurification treatments for patients suffering from chronic and acute kidney failure. Care also covers the preparation of patients with irreversible kidney failure for organ transplantation. The department also includes a nephrological outpatients clinic for the diagnostics and treatment of kidney disease as well as a specialized counseling unit for ischaemic kidney disorders and an outpatients clinic for peritoneal dialysis. The Hemodialysis Center is open 24 hours a day and has ten dialysis units, including one cubicle for patients suffering from hepatitis B and one cubicle for patients with hepatitis C. Comprehensive continuous dialysis treatment covers hemodialysis, hemofiltration, hemodiafiltration, plasmaphoresis, hemoperfusion peritoneal dialysis and continuous elimination methods. In 2004 the Hemodialysis Center again achieved lower mortality levels than the average in the Czech Republic and Europe, despite the fact that the average age of the patients attending was 70.4 years.

The reputation the Na Homolce Hospital Department of Nephrology enjoys at a Czech and European level is strengthened by its long-term efforts in creating an integrated rehabilitation program for dialysis and transplant patients. The sports club for these patients, part of the Czech Sporting Association, was founded in association with Na Homolce Hospital and not only devotes itself to educational and informational activities, but primarily to the organization of sporting activities for dialysis and transplant patients, including their representation at international sporting events.

### Basic data - Department of ENT / Head and Neck Surgery

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of beds</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>standard</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>intensive care</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Number of physicians</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>Number of nurses</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>Number of outpatient examinations</strong></td>
<td>35,202</td>
</tr>
<tr>
<td><strong>Number of patient admissions</strong></td>
<td>1,133</td>
</tr>
<tr>
<td><strong>Number of surgical interventions</strong></td>
<td>1,862</td>
</tr>
<tr>
<td><strong>Number of days of treatment</strong></td>
<td>3,548</td>
</tr>
<tr>
<td><strong>Bed occupancy rate (%)</strong></td>
<td>94.4</td>
</tr>
<tr>
<td><strong>Average length of stay (in days)</strong></td>
<td>2.4</td>
</tr>
</tbody>
</table>

### Number of surgical interventions in 2004

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adenotomies</strong></td>
<td>333</td>
</tr>
<tr>
<td><strong>Operations under local anesthetic</strong></td>
<td>480</td>
</tr>
<tr>
<td><strong>Operations under general anesthetic</strong></td>
<td>933</td>
</tr>
<tr>
<td><strong>Operations using tracheotomy</strong></td>
<td>116</td>
</tr>
</tbody>
</table>
The Department of Anesthesiology and Resuscitation provides comprehensive care for patients during surgery as well as in the periods prior to and following their operations, handling the administration of general anesthesia and the more demanding types of local anesthesia. In 2004 the number of anesthetics administered increased and the chemical lumbar sympathectomy method was adopted as routine practice. The Resuscitation unit provides comprehensive diagnostics and treatment of patients whose general state of health is affected by disorders to their basic vital functions, so severe as to be life-threatening and who require the highest level of medical care. The overwhelming majority of cases involve patients with injuries to the brain and cranium. The facilities provided by the center include a hyperbaric chamber offering the possibility of artificial pulmonary ventilation and other specialized methods of Resuscitation treatment. The pain management clinic deals with problems experienced by patients in chronic pain.
### Basic data - Department of Anesthesiology and Resuscitation

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds</td>
<td>8</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>22</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>53</td>
</tr>
<tr>
<td>Number of outpatient examinations (treatment of chronic pain)</td>
<td>1,549</td>
</tr>
<tr>
<td>Number of patient admissions</td>
<td>102</td>
</tr>
<tr>
<td>Number of days of treatment</td>
<td>2,578</td>
</tr>
<tr>
<td>Bed occupancy rate (%)</td>
<td>93.34</td>
</tr>
<tr>
<td>Average length of stay (in days)</td>
<td>25.27</td>
</tr>
</tbody>
</table>

**Breakdown of Units**

- 1 Resuscitation unit
- 7 central operating theaters
- 3 operating theaters for general surgery
- 2 operating theaters for gynecology
- 6 other operating theaters and clinics (ENT, stereotaxis, x-ray, dentistry and eye clinic)

### Breakdown of selected anesthesiology interventions in 2004

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers anesthetized for interventions lasting longer than 2 hours</td>
<td>3,729</td>
</tr>
<tr>
<td>Number of local anesthetics</td>
<td>1,546</td>
</tr>
<tr>
<td>Number of patients over the age of 70 anesthetized</td>
<td>1,920</td>
</tr>
<tr>
<td>Number of children anesthetized</td>
<td>365</td>
</tr>
<tr>
<td>Number of anesthetics administered for acute interventions</td>
<td>1,585</td>
</tr>
<tr>
<td>Number of other anesthetics administered</td>
<td>1,084</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10,229</td>
</tr>
</tbody>
</table>
### General Medical Care Program 2000-2004

#### Development in the numbers of General Medical Care Program patient admissions

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT</td>
<td>707</td>
<td>876</td>
<td>788</td>
<td>949</td>
<td>1,133</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>1,060</td>
<td>1,026</td>
<td>1,006</td>
<td>1,023</td>
<td>1,228</td>
</tr>
<tr>
<td>Gynecology</td>
<td>1,686</td>
<td>1,916</td>
<td>2,016</td>
<td>1,986</td>
<td>2,094</td>
</tr>
<tr>
<td>General Surgery</td>
<td>1,780</td>
<td>1,874</td>
<td>2,095</td>
<td>2,156</td>
<td>2,408</td>
</tr>
<tr>
<td>Total</td>
<td>5,233</td>
<td>5,692</td>
<td>5,905</td>
<td>6,114</td>
<td>6,863</td>
</tr>
</tbody>
</table>

#### Development in the numbers of General Medical Care Program outpatient examinations

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT</td>
<td>31,401</td>
<td>33,542</td>
<td>29,327</td>
<td>31,612</td>
<td>35,202</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>42,310</td>
<td>44,515</td>
<td>45,296</td>
<td>45,769</td>
<td>40,802</td>
</tr>
<tr>
<td>Gynecology</td>
<td>22,611</td>
<td>21,580</td>
<td>22,768</td>
<td>24,855</td>
<td>23,650</td>
</tr>
<tr>
<td>General Surgery</td>
<td>30,954</td>
<td>33,592</td>
<td>37,268</td>
<td>39,255</td>
<td>42,705</td>
</tr>
<tr>
<td>Total</td>
<td>127,276</td>
<td>133,229</td>
<td>134,659</td>
<td>141,491</td>
<td>142,359</td>
</tr>
</tbody>
</table>
Summary of Activities of the Complementary Services:

Department of Radiodiagnostics
Department of Clinical Microbiology
Department of Nuclear Medicine / PET Center
Department of Pathology
Department of Clinical Biochemistry, Hematology and Immunology
Department of Central Sterilization and Hygiene

Department of Radiodiagnostics

Head of Department:  
Ladislava Janoušková, M.D., Ph.D.

During 2004, the unit continued to provide services both to its own hospital as well as to other health care facilities, including those with non-stop operations. The scope of its activities covers diagnostic examinations in all areas of radiodiagnostics, with emphasis on diseases of the nervous, locomotive and cardiovascular systems, as well as on vascular and non-vascular interventions. It continued to apply vascular techniques over the past year, working closely with the vascular surgery department on a program to implant stents in aneurysms of the abdominal and thoracic aorta and the pelvic circulatory system. Na Homolce Hospital is ranked first in the Czech Republic for the number of implants performed. A new "cutting balloon" technique was introduced for interventions on the peripheral vessels to treat resistant lesions. It also continued the program of endovascular treatment of cerebral aneurysms using a detachable coil, with the introduction of a new type of hydraulic detachable coil, as well as the use of remodelling techniques in the treatment of wide-necked aneurysms using stents. Similarly, treatment of local intracranial thrombolysis continued for cases of acute occlusion of the cerebral arteries. A new technique of distal protection was introduced to prevent thromboembolic complications in interventional treatment for occlusion of the carotid arteries.

Percutaneous vertebroplasty for the treatment of compression fractures caused either by osteoporosis or tumor was one of the range of non-vascular methods that continued to be performed in 2004. Magnetic resonance imaging saw significant development and the number of specialized examinations of the heart, functional MR of the brain and peripheral angiographies showed a sharp rise. In the field of CT examinations, virtual CT colonography and bronchoscopy were introduced last year, particularly for patients who are unable to undergo endoscopic examinations and new imaging of the coronary atrium and coronary veins prior to implanting biventricular pacemakers was brought into practice. The safety of CT examinations was improved in 2004 by the introduction of a special calibration (C.A.R.E. dose), which supported radiation hygiene targets by reducing radiation doses per patient and per examination by 30-50%.

In the area of ultrasound examinations, the mammogram unit brought ultrasound control of biopsies into routine practice.
Basic data - Department of Radiodiagnosics

Number of physicians 18
Number of laboratory technicians 26
Number of nurses 7

Technical equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiography Center</td>
<td>1 x Multistar Siemens</td>
</tr>
<tr>
<td></td>
<td>1 x Toshiba CAS</td>
</tr>
<tr>
<td></td>
<td>1 x theater OEC 9700</td>
</tr>
<tr>
<td>CT unit</td>
<td>1 x Siemens Somatom Plus 4</td>
</tr>
<tr>
<td></td>
<td>1 x Siemens Sensation</td>
</tr>
<tr>
<td>MR unit</td>
<td>1 x Magnetom Impact Expert 1 T</td>
</tr>
<tr>
<td></td>
<td>1 x Magnetom Symphony 1.5 T</td>
</tr>
<tr>
<td>USG unit</td>
<td>1 x Toshiba Aplio</td>
</tr>
<tr>
<td></td>
<td>1 x Toshiba Eccocee</td>
</tr>
<tr>
<td></td>
<td>1 x Logiq 9</td>
</tr>
<tr>
<td>Mammography</td>
<td>1 x Lorad M-IV</td>
</tr>
<tr>
<td>Basic equipment</td>
<td>4 radioscopic and radiographic units, mobile x-ray unit</td>
</tr>
<tr>
<td>PACS</td>
<td>Workstations, scanners, printers, laser filmcameras, data archives</td>
</tr>
</tbody>
</table>

Specialized therapeutic interventions in 2004

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA</td>
<td>599</td>
</tr>
<tr>
<td>Implantation of vascular stents</td>
<td>471</td>
</tr>
<tr>
<td>Implantation of stentgraphs into abdominal and thoracic aortal aneurysms</td>
<td>91</td>
</tr>
<tr>
<td>Endovascular treatment of cerebral aneurysms using GDC</td>
<td>51</td>
</tr>
<tr>
<td>Local thrombolysis and PTA in the extra- and intra-cranial area</td>
<td>40</td>
</tr>
<tr>
<td>Vascular embolization and interventions to the head</td>
<td>9</td>
</tr>
<tr>
<td>CT-guided radicular injections</td>
<td>594</td>
</tr>
<tr>
<td>Drainage of abcesses and cysts, guided biopsies</td>
<td>37</td>
</tr>
<tr>
<td>Vertebroplasty</td>
<td>47</td>
</tr>
<tr>
<td>Radiofrequency ablations</td>
<td>16</td>
</tr>
<tr>
<td>Breast node biopsies</td>
<td>68</td>
</tr>
<tr>
<td>Chemical sympathectomy</td>
<td>2</td>
</tr>
</tbody>
</table>
The services provided by the center include scintigraphic functional imaging, which includes PET (positron emission tomography), mainly used to diagnose disorders of an oncological, neurological and cardiovascular nature. In 2004 a new hybrid PET/CT scanner (a combination of positron emission tomography and computer tomography) was brought into full operation. This equipment provides the most up-to-date diagnostics of oncological conditions, and is currently the only one of its kind in the Czech Republic. Na Homolce Hospital became the largest European center of its kind in terms of the number of PET examinations performed. Further services provided by the center include immunoanalytic laboratory testing techniques (RSA - radiosaturation analysis and chemiluminiscence).

During 2004, the Department of Nuclear Medicine/PET Center continued to serve patients in other health care facilities throughout the Czech Republic as well as those in Na Homolce Hospital (primarily in providing PET examinations). The number of PET interventions and examinations was 62.6% higher than in 2003, with 84% consisting of examinations of the trunk, 12% examinations of the brain and 4% examinations of the myocardium. The number of scintigraphic examinations reached an all-time high, with a 6.6% year-on-year increase in scintigraphic interventions and a 9.9% growth in scintigraphic examinations. The rise was mainly in skeletal scintigraphies, phlebography and perfusion scintigraphy of the myocardium, which made up 86% of all interventions performed. The year-on-year rise in examinations performed by the immunoanalytic laboratory was 10% last year. In June 2004 the center was awarded ISO 9001-2000 certification on the basis of a certification audit carried out by the Det Norske Veritas firm of auditors.

The center participated in 3 grant projects.
Basic data - Department of Nuclear Medicine / PET Center

- Number of physicians: 7
- Number of other college graduates: 2
- Number of nurses: 16
- Technical equipment instruments:
  - 2 x scintillation cameras
  - 1 x positron emission tomography camera
  - 1 x positron emission tomography and CT camera
  - Imaging station
  - Immunoanalysers

Breakdown of PET and PET CT examinations in 2004

<table>
<thead>
<tr>
<th>PET</th>
<th>PET CT</th>
<th>trunk</th>
<th>myocardium</th>
<th>brain</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.5%</td>
<td>58.5%</td>
<td>84%</td>
<td>4%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Number of interventions/examinations in 2004

- **Scintigraphy**
  - number of interventions: 7,339
  - number of examinations: 2,315
- **Positron emission tomography**
  - number of interventions: 5,803
- **Laboratory tests**
  - number of interventions: 124,472
  - number of assays: 97,794

Breakdown and number of immunoanalytic assays in 2004

- Thyroid screening: 42.4%
- Onco-markers: 28.0%
- Non-thyroid hormones: 17.1%
- Pregnancy screening: 12.4%
- Miscellaneous: 0.1%
Head of Department: Prof. Josef Hyánek, M.D., Ph.D.

In the field of clinical biochemistry the department provides a routine biochemical service for both hospital wards and outpatient clinics in Na Homolce Hospital, and focuses on the diagnosis and treatment of critically ill patients admitted to the hospital. The number of routine laboratory interventions registered a rise of 4.6% in 2004. In the case of inpatients in a critical state, testing is carried out directly in the wards (POCT diagnostics), as well as the analysis of cardiokmers, amino acid and drug levels. During 2004, the clinical biochemistry unit continued to provide services to general practitioners, pediatricians and other specialists working in the field. An important part of the work carried out by the biochemical unit concerns the analysis of lipid metabolism disorders. Routine diagnostics of these atherogenic disorders is supplemented by metabolic tests for homocysteine levels and other related parameters. Diagnostic activity is also focused on investigating genetic anomalies relating to the metabolism of lipids of adults and, particularly, in children. Over the past year, the club of parents of children suffering from lipid disorders continued to provide a metabolic counseling service, which concentrated in particular on rehabilitation, reconditioning and educational activities for club members. In hematology, the laboratory provides a routine service for clinical units and conducts specialized analysis of coagulation parameters for the Department of Vascular Surgery. The Immunology Laboratory again in 2004 used a wide spectrum of serological and cytological examination methods in the fields of immunology and allergology. Specialized activities were focused on diagnosing septic conditions in critically ill patients and on the diagnosis of respiratory dysfunctions. Specialists from the Immunology Laboratory participated with clinical immunology and allergology staff in the activities of the newly created Center for Allergology and Clinical Immunology. The Transfusion Center ensures the supply of blood and blood derivatives to the clinical departments. The Laboratory for Cerebrospinal Fluid and Neuroimmunology carries out routine analyses of serum and cerebrospinal fluid and cytological analyses on patients with neurological and neurosurgical diseases. It also serves a long-term function as a reference center for cerebrospinal fluid laboratories in the Czech Republic in the area of cytological analysis.

In 2004 the DNA Diagnostic Laboratory carried out molecular genetic diagnostics of hereditary diseases and genetic predispositions for serious
diseases commonly occurring in the population. Screenings for mutations in thrombophile conditions and the detection of foreign genomes in biological material became routinely available, causal mutation diagnostics for Gilbert syndrome and the diagnosis of chronic lymphatic leukemia were initiated and the project of genetic analysis of oligodendrogliomas was developed.

In June 2004, the Department of Clinical Biochemistry, Hematology and Immunology was awarded ISO 9001-2000 certification on the basis of a certification audit carried out by the Det Norske Veritas firm of auditors.

### Basic data - Department of Clinical Biochemistry, Hematology and Immunology

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of physicians</td>
<td>12</td>
</tr>
<tr>
<td>Number of other college graduates</td>
<td>5</td>
</tr>
<tr>
<td>Number of laboratory technicians</td>
<td>33</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>8</td>
</tr>
<tr>
<td>Total number of examinations</td>
<td>3,345,366</td>
</tr>
</tbody>
</table>

### Outpatient clinics

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td></td>
</tr>
<tr>
<td>Metabolic disorders</td>
<td>6,966</td>
</tr>
<tr>
<td>Hematology</td>
<td>1,654</td>
</tr>
<tr>
<td>Immunology and allergology</td>
<td>5,656</td>
</tr>
<tr>
<td>Neuroimmunological</td>
<td>858</td>
</tr>
<tr>
<td>Total</td>
<td>15,134</td>
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</tbody>
</table>

### Breakdown of examinations in 2004

<table>
<thead>
<tr>
<th>Laboratory</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine examinations</td>
<td>93,954</td>
</tr>
<tr>
<td>POCT</td>
<td>93,458</td>
</tr>
<tr>
<td>Drug laboratory</td>
<td>4,819</td>
</tr>
<tr>
<td>Cerebrospinal fluid examinations</td>
<td>66,859</td>
</tr>
<tr>
<td>Routine and research biochemistry</td>
<td>1,951,677</td>
</tr>
<tr>
<td>Total BIOCHEMISTRY</td>
<td>2,210,767</td>
</tr>
<tr>
<td>HEMATOLOGY</td>
<td>926,426</td>
</tr>
<tr>
<td>IMMUNOLOGY</td>
<td>118,306</td>
</tr>
<tr>
<td>DNA DIAGNOSTICS LABORATORY</td>
<td>7,125</td>
</tr>
<tr>
<td>BLOOD BANK AND TRANSFUSIONS</td>
<td>82,742</td>
</tr>
<tr>
<td>Total</td>
<td>3,345,366</td>
</tr>
</tbody>
</table>
Department of Clinical Microbiology and Antibiotic Center

Head of Department: Vlastimil Jindrák, M.D.

The Department of Clinical Microbiology provides laboratory diagnostics of community and nosocomial infectious diseases or complications in hospitalized patients, as well as consultative work to deal with their diagnosis, treatment and prevention. The department's consultants participate in routine interdisciplinary work in a team of specialists to provide the highest possible level of treatment for both ward patients and outpatients. In 2004 there was a further increase in the volume of examinations performed by the laboratory diagnostic services, which have traditionally been provided both to Na Homolce Hospital as well as to primary care general practitioners and specialists working in the field. A rise was also recorded in bacteriological and serological examinations.

An important part of the department's activities consists of the work of the Antibiotic Center, which deals with antibiotic practices in Na Homolce Hospital as well as in primary outpatient care. In 2004 the total numbers of patients with infectious complications who required consultation with specialists from the Antibiotic Center again rose. The cost of antibiotics as a proportion of the hospital's outgoings fell to 13% year-on-year, which is the lowest figure recorded since these values began to be recorded in 1995. There was also a significant drop in the levels of antibiotics used in the hospital. Indicators assessing the level of antibiotic used and the itemized costs testify to the effectiveness of the system to control the use of antibiotics at Na Homolce Hospital.

Within the framework of the accreditation efforts of the hospital, the department developed and implemented a routine system to monitor nosocomial infections, which is supported by specially developed information technologies. The system enables the identification, reporting and registration of cases of nosocomial infection in hospital inpatients.

During the past year the department has again been involved in or has directly organized projects of national importance. The department is the main sponsor for two Ministry of Health projects on the quality of health care "Influencing resistance to antibiotics by the quality of antibiotics used" which covered partial projects focusing on the quality of prescribed antibiotics in primary pediatrics, in primary care for adults, on the quality of antimicrobial prophylaxes during surgery, and analysis of the consumption of antibiotics in hospitals and the surveillance of antibiotic resistance.

In June 2004, the department was awarded ISO 9001-2000 certification on the basis of a certification audit carried out by the Det Norske Veritas firm of auditors.

The department completed one grant project in 2004.

Basic data - Department of Clinical Microbiology and Antibiotic Center

| Number of physicians | 3 |
| Number of other college graduates | 1 |
| Number of laboratory technicians | 16 |
| Number of examinations | 137,650 |
Consultations for antimicrobial therapy in admitted patients from 2000 to 2004

Number of consultations

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>4,287</td>
<td>5,069</td>
<td>6,076</td>
<td>6,960</td>
<td>7,291</td>
</tr>
<tr>
<td>Serology</td>
<td>11,330</td>
<td>12,257</td>
<td>14,282</td>
<td>15,194</td>
<td>17,238</td>
</tr>
</tbody>
</table>

Number of patients consulted

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>905</td>
<td>1,024</td>
<td>1,266</td>
<td>1,559</td>
<td>1,622</td>
</tr>
<tr>
<td>Serology</td>
<td>8,727</td>
<td>8,343</td>
<td>9,380</td>
<td>9,989</td>
<td>11,889</td>
</tr>
</tbody>
</table>

Proportion of patients consulted out a the total of admitted patients

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>6.5%</td>
<td>6.8%</td>
<td>7.5%</td>
<td>9.3%</td>
<td>8.4%</td>
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</table>

Number of examinations performed from 2000 to 2004

Na Homolce Hospital

<table>
<thead>
<tr>
<th></th>
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<th>2002</th>
<th>2003</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>35,251</td>
<td>39,018</td>
<td>41,473</td>
<td>45,952</td>
<td>54,306</td>
</tr>
<tr>
<td>Serology</td>
<td>11,330</td>
<td>12,257</td>
<td>14,282</td>
<td>15,194</td>
<td>17,238</td>
</tr>
</tbody>
</table>

External clients

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>44,809</td>
<td>47,387</td>
<td>48,985</td>
<td>47,969</td>
<td>54,209</td>
</tr>
<tr>
<td>Serology</td>
<td>8,727</td>
<td>8,343</td>
<td>9,380</td>
<td>9,989</td>
<td>11,889</td>
</tr>
</tbody>
</table>

Total number of microbiological examinations

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>80,100</td>
<td>86,405</td>
<td>90,458</td>
<td>93,921</td>
<td>108,515</td>
</tr>
<tr>
<td>Serology</td>
<td>20,084</td>
<td>20,500</td>
<td>23,652</td>
<td>25,183</td>
<td>29,133</td>
</tr>
</tbody>
</table>
QUALITY MANAGEMENT IN 2004

One of the basic stabilizing pillars of Na Homolce Hospital is the long-term quality of the services provided. The effort to provide top quality medical care following clearly defined standards led Na Homolce Hospital to try to acquire the internationally recognized Joint Commission International (JCI) health care facility accreditation. In 2004 a series of steps and measures were adopted to monitor and improve quality.

JCI accreditation

Joint Commission International (JCI) is an international organization which has been accrediting special health care facilities outside the USA since 1998. It is a subsidiary of JCAHO, which, with a tradition dating back over more than 75 years, is now the largest health care accreditation organization in the United States. Almost 50 hospitals have now been granted JCI accreditation in sixteen countries worldwide (outside the USA). Accredited hospitals guarantee patient safety and quality of care through the continuous monitoring, analysis and improvement of quality indicators in all areas of hospital operations. Most important is the fact that the hospital must monitor several dozen indicators that directly affect patient safety and the reliability of the treatment processes. The JCI accreditation is awarded for a period of three years, after which the health care facility must reapply.

Preparation of new directives

Since the summer of 2003, Na Homolce Hospital has been phasing in measures required to meet international JCI accreditation standards. The hospital management has prepared 40 new directives on the basis of 368 JCI standards covering both the provision of health care and the running of the hospital. Eleven of these are specialist directives covering the provision of health care, while the others describe the organization of work in Na Homolce Hospital. In January 2004 the accreditation team submitted these directives to the JCI consultants to assess whether they complied with the accreditation requirements. During their visit Na Homolce hosted an official publication launch of the official commented Czech translation of the accreditation standards, to which the hospital contributed.

Employee training

After publication of the new directives, extensive training was provided for the employees in the spring of 2004. All employees were deliberately invited to attend the training program, because each of them contributes through their work to the quality of the services provided by the hospital as a whole. In parallel with this, internal audits were conducted last year where groups of auditors, drawn from amongst the physicians and nursing staff, periodically checked in pairs whether the accreditation standards were being adhered to in practice by the various departments. In connection with the implementation of the JCI accreditation standards, training took place for all employees in emergency resuscitation and this will be repeated every two years.
Mock JCI Survey

In June 2004, JCI conducted a "mock" survey. Three experienced consultants spent five days going through the hospital. They spent two hours in almost every department and checked whether the JCI accreditation standards were being adhered to in practice. They looked for evidence in the medical records, by staff interviews and by checking rooms throughout the hospital premises (including, for example, the medical gas store, the kitchens and the backup electricity supply).

The outcome of this audit was a report where the consultants assessed whether the hospital fulfilled each of more than 300 standards fully, partially or not at all. At that stage Na Homolce Hospital fulfilled 77% of the standards (the standards cover a total of 1,032 indicators that the hospital must fulfil).

In the fall of 2004 the hospital focused on eliminating the deficiencies that were identified and searching for suitable ways of fulfilling the remaining 23% of standards. In December 2004, after further consultations with JCI, the measures proposed and implemented by the hospital were approved and JCI then recommended that we apply for their accreditation in 2005, on the basis of an accreditation audit, which is due to take place this summer.

Acquiring ISO 9001:2000 certification

In parallel with the preparation for JCI accreditation, three departments underwent preparation for certification according to ISO 9001:2000 norms. In June 2004, the hospital was awarded quality management certification for the activities of its laboratory and diagnostic services. Requirements for ISO certification not only cover improvements in patient relations, but also in employee safety. The aim of this quality management system is the early discovery and elimination of various types of risk, thereby leading to increased safety levels in the provision of health care.
**Title:** International Multicentric BARI 2D Study (Bypass Angioplasty Revascularization Investigation 2 Diabetes)

**Period:** 2002–2007

**Authors:** University of Pittsburgh Graduate School of Public Health and 40 other university medical centers in the USA and Canada, Na Homolce Hospital in Europe

**Main author:** Katherine Detre, M.D., Ph.D.
Director, Epidemiology Data Center, University of Pittsburgh Graduate School of Public Health, Pennsylvania, U.S.A.

**Co-authors for Na Homolce Hospital:**
- Petr Neužil, M.D., Ph.D.
  *Department of Cardiology, Na Homolce Hospital*
- Štěpánka Stehlíková
  *Department of Internal Medicine, Na Homolce Hospital*

The project aims to research the most effective method of treating ischaemic heart disease in patients suffering from type 2 diabetes. 95% of all diabetics suffer from this type of diabetes. Type 2 diabetics have high blood sugar levels, either caused by the inability of the organism (pancreas) to produce enough insulin, or the inability of the organism to react to the insulin, or a combination of both these disorders. The resultant high level of blood sugars subsequently causes damage to many organs, including the heart muscle. It has been proved that ischaemic heart disorder affects patients with type 2 diabetes at an earlier age and two to three times more frequently than the healthy population. The study will investigate whether the early treatment of ischaemic heart disorder by angioplasty, coronary bypass or pharmalogical methods produces better results for type 2 diabetics. At the same time, patients taking part in the study will be tested with two different therapeutic methods for high blood sugar levels: the administration of pharmaceuticals to stimulate the production of insulin by the organism (insulin providers) or the administration of drugs that adjust the body's reaction to insulin (insulin sensitizers). It is not yet known which of these pharmaceutical treatments is the better for patients suffering from a combination of type 2 diabetes and ischaemic heart disorder.
Title: Treatment of Glaucoma with the Leksell Gamma Knife at the Early Stages of the Disease

Period: 2003-2008

Authors:
- Assoc. Prof. V. Vladyka, M.D., Ph.D.
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Roman Liščák, M.D., Ph.D.
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Gabriela Šimonová, M.D., Ph.D.
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Josef Novotný, M.Sc.
  Department of Medical Physics, Na Homolce
- Prof Martin Kofán, Ph.D.
  Clinical Psychologist, Na Homolce
- Daniele Tlacháčová, M.A.
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Assoc. Prof. Jiří Paštá, M.D., Ph.D.
  Střešovice ÚVN Eye Clinic, Prague
- Jiří Pilbauer, M.D.
  Střešovice ÚVN Eye Clinic, Prague
- Iveta Hejduková, M.D.
  Střešovice ÚVN Eye Clinic, Prague
- Ladislav Nováček, M.D.
  Střešovice ÚVN Eye Clinic, Prague
- Pavel Němec, M.D.
  Střešovice ÚVN Eye Clinic, Prague
- Jaroslava Vladyková, M.D., DrSc.
  Střešovice ÚVN Eye Clinic, Prague
- Leoš Rajmont, M.D.
  Střešovice ÚVN Eye Clinic, Prague

Between 2000 and 2002, both study centers contributed to the initial research project. They found that gamma knife irradiation of the intraocular ciliary body can still help patients at an advanced stage of glaucoma, when they face losing the eye. It alleviates severe pain, reduces intra-ocular pressure and helps to alleviate the formation of new vessels. This is a completely new medical procedure. The results have been confirmed on over one hundred patients and presented at medical forums at home and abroad. The intermediate results have been published in foreign professional journals and the final report for this initial study is about to be printed. A new treatment option has been found for the 20% of glaucoma patients who generally reach this advanced stage of the disease.

The question remains as to whether this type of treatment can be used to halt the progress of the disease in its early stages, when increased intra-ocular pressure leads to imperceptible deterioration in vision. This applies to the 80% of glaucoma patients who are resistant to conventional treatment methods (pharmacological, laser and microsurgical).

Comprehensive computer-assisted eye examinations now enable early diagnosis and long-term comparative monitoring of the therapeutic results. A reasonable follow-up period should be at least five years.

This new five-year grant study should answer this question. Sixty patients should be a suitable number for the project and, apart from gamma knife treatment, they will have to undergo a total of 5,400 clinical and technical examinations over a period of five years.

The detailed methodology for the study has been developed in line with the latest international ethical standards and has been considered and approved by the ethics committees of both Na Homolce and the Střešovice Eye Clinic. Patients will give their informed consent before being included in the study.

Should this research project prove that gamma knife treatment prevents vision deterioration in these glaucoma patients and has a neuroprotective effect, it would mean a breakthrough for global efforts, which have so far been ineffective.
Title: Can Leksell gamma knife treatment halt the progress of the disease and improve vision in age-dependent macular degeneration?

Period: 2003-2008

Authors:
- Assoc. Prof. V. Vladyka, M.D., Ph.D. 
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Roman Liščák, M.D., Ph.D. 
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Gabriela Šimonová, M.D., Ph.D. 
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Josef Novotný, M.Sc., 
  Department of Medical Physics, Na Homolce
- Prof Martin Kořán, Ph.D. 
  Clinical Psychologist, Na Homolce
- Daniele Tlacháčová, M.A. 
  Department of Stereotactic and Radiation Neurosurgery, Na Homolce
- Assoc. Prof. Jiří Pašta, M.D., Ph.D. 
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  Střešovice ÚVN Eye Clinic, Prague
- Pavel Němec, M.D. 
  Střešovice ÚVN Eye Clinic, Prague
- Jaroslava Vladyková, M.D., DrSc. 
  Střešovice ÚVN Eye Clinic, Prague
- Leoš Rajmont, M.D. 
  Střešovice ÚVN Eye Clinic, Prague

At an advanced age one of the most frequent, and most serious, eye diseases is age-dependent macular degeneration (ADMD). To date no unequivocally effective treatment has been found to prevent vision loss. In the initial stages of the disease, as long as no serious deterioration in vision has taken place, a number of different treatments are used – laser, coagulation, transpupilar thermotherapy and microsurgery. Each of these has some very limited effect but none of the procedures is effective enough to cure this serious disease. In the advanced, malignant form, a very active vascular membrane develops beneath the retina causing its partial detachment and can lead to permanent blindness.

The focused, demarcated irradiation of the pathological structure by gamma knife has proved to be an effective modern treatment for a number of eye diseases such as tumors, glaucoma and vascular anomalies. In ADMD, this type of irradiation to the vascular membranes can seal off vascular neoplasms in the membrane. This halts the activity of the membrane and can lead to a stabilization of the disease, or even a slight improvement in visual orientation in space. The use of non-invasive gamma knife treatment avoids the need for intra-ocular surgery that is sometimes associated with numerous complications.

The effect of gamma knife treatment on ADMD has not yet been proven, which is why we have proposed a grant study of 30 patients with this condition. A comprehensive series of examinations will have to be conducted at regular intervals over a period of at least 5 years. Modern imaging methods will complement the clinical tests.

The detailed methodology for the study has been developed in line with international ethical standards and has been considered and approved by the ethics committees of both Na Homolce and the Střešovice Eye Clinic. Patients will give their informed consent before being included in the study.

Should the gamma knife prove effective as a form of treatment for limited forms of ADMD, it would represent an important contribution to widening the therapeutic options available as well as to reducing the cost of treating this disease.
Grant IGA NR/ 8105-3 and MSMT 0021620808

Title: The activity of dipeptidyl-peptidase IV and their structural homologues (DASH) in cerebral tumors


Author:
- Prof. Alexi Šedo, M.D., Ph.D.
  
  *Institute of Molecular Biology, ČSAV*

Co-authors:
- Vladimír Dbalý, M.D.
  
  *Department of Neurosurgery, Na Homolce Hospital*
- Assoc. Prof. Josef Marek, M.D., Ph.D.
  
  *Department of Pathology, Na Homolce Hospital*

The pathogenesis of many diseases, including cancer, often contains incorrect proteolytic post-translation modification of biologically active peptides. Many research centers have shown the relation between the regulated expression of new groups of enzymic molecules (dipeptidyl peptidase IV and their structural homologues, referred to as DASH molecules) with the incidence and progression of certain types of malignant growths.

The grant referred to above refers to a study of the expression and enzymic activity of DASH molecules (primarily DPP-IV) located in the plasma membrane of the tumor cells of malignant human glioma (anaplastic astrocytoma AA and multiform glioblastoma GBM).

We have managed to show that a co-expression of DPP-IV and FAP (fibroblast activation protein alpha) occurs in the tumors we studied. Preliminary results also importantly demonstrate co-expression of enzymatically active and inactive DASH molecules in glial cells that increase in quantity in tumors with a higher degree of malignancy.

Clinical Study

Title: Treatment of malignant brain tumors by the continuous administration of electric current (TTF–Tumor Treatment Field). In association with the company NovoCure, Israel

Period: 2004–2007

Authors:
- Vladimír Dbalý M..D.
  
  *Department of Neurosurgery, Na Homolce Hospital*
- František Tovaryš, M.D., Ph.D.
  
  *Department of Neurosurgery, Na Homolce Hospital*
- Eilon Kirson M. D., NovoCure

The current treatment of malignant cerebral tumors, originating in the supporting brain cells—the so-called glial cells, which are termed malignant cerebral glioma, or in their most malignant form as multiform glioblastomes, is totally unsatisfactory. The standard treatment procedure is the surgical reduction of the tumor, followed by irradiation and chemotherapy. There is a high percentage of recurrence and the prognostic indicators are unfavorable. For this reason, intensive research activity into other therapeutic options is underway worldwide.

One of these is the application of electric current at an extremely low intensity to the area of recurrence of the brain tumor. At suitable levels, the electric current creates a magnetic field at the site of the tumor, which orientates the fast-dividing tumor cells symmetrically along the axis of their division and destroys the dividing helix during mitosis of these tumor cells, thereby
destroying them. This has been demonstrated in in vitro experiments and on experimental animals and clinical trials are now taking place at the Department of Neurosurgery at Na Homolce Hospital and in the United States. The great advantage of this method, which so far is only used once standard therapies have been exhausted, is that it is totally non-invasive and has no side-effects. 8 patients are currently being treated by this method at Na Homolce Hospital and the preliminary findings are promising.

Grant: no. NR 8232-3/2004

Title: Neurophysiological aspects of spinal cord neurostimulation for the treatment of chronic pain


Author:
- Assoc.Prof. Andrej Stančák, Ph.D. 
  3rd Medical Faculty, Charles University

Co-authors:
- Jiří Kozák, M.D.
  Pain Center, Motol Teaching Hospital
- Ivan Vrba, M.D.
  AR Department, Na Homolce Hospital
- Jaroslav Tintěra, Ph.D.
  Institute of Clinical and Experimental Medicine

The aim of the project is to clarify changes in cortical activity during spinal cord neurostimulation in patients suffering chronic pain by using EEG and fMRI. Individual experiments provide a comparison of cortical activity, recorded using a 128 channel EEG and functional magnetic resonance during different forms of somatosensory stimulation (touch, heat, cold, pain caused by heat and cold) and when moving freely with and without spinal cord stimulation. Electrophysiological means will also be used to verify the effect of spinal cord stimulation on nociceptive spinal cord reflexes. The practical impact of the project should consist of the objective assessment of the effect of spinal cord stimulation from the point of view of the level of activation of the cortical structures participating in the sensation of pain (the insula, secondary somatosensory area, gyrus cinguli) and in the creation of an effective clinical research process to demonstrate objective changes in the "pain" structures of the brain during a clinically important test period, and to proceed the definitive installation of a neurostimulation system (by implanting an energy generator to stimulate the electrodes).

Grant IGA 7773-3

Title: Frontal cervical diskectomy – ensuring stability after radical surgery for degenerative diseases to the cervical vertebrae. A comparative study


Author:
- Martin Häckel, M.D., Ph.D. 
  Neurosurgical clinic, 1st Medical Faculty, Charles University

Co-author:
- Assoc. Prof. Ivana Štětkářová, M.D., Ph.D. 
  Department of Neurology, Na Homolce Hospital

Participating specialists:
- Prof. Lubor Stejskal, M.D., Ph.D. 
  Neurosurgical clinic, 1st Medical Faculty, Charles University
- Jiří Chrobok, M.D. 
  Department of Neurosurgery, Na Homolce Hospital
The significant social and economic consequences of degenerative diseases of the cervical vertebrae have encouraged medical personnel to search for new methods of treatment and then to further improve them. The most serious consequences of the affected spine manifest themselves clinically through a number of neurological symptoms. This relates to compressive spinal cord and radical compressive syndromes which develop from mechanical, ischemic or combined causes. Surgical decompression and stabilization of the spine are the primary methods of treatment for degenerative diseases. There is a consensus of opinion over the method of surgical treatment as far as the decompressive part of the intervention is concerned (microtechniques, radical surgery). The debate is over the method of stabilization: whether and what type of prosthesis is suitable, particularly over the long term, when more progressive methods of dynamic implants should be used, etc. This study compares three different methods performed to ensure long-term decompression and fusion in cases of degenerative disease of the cervical vertebrae with complete pre- and post-operative examinations of the patients. During 2004 the first prospectively directed examination was calculated in order to specify the relation of the number of patients suitable for single stage frontal diskectomy to the number of patients suitable for two-stage diskectomy. According to the relations we have found, it will be possible to adjust the monitoring parameters and to select the most suitable form of statistical treatment.

The first results of treatment from a clinical and electrophysiological perspective correlate positively with our favorable expectations.
for four age groups (40–79 years). In addition, a manual for the Blue Velvet battery of tests was published as internal support material, describing the development of the tests, a detailed guide to their administration, the method of assessment and the norms.

### Grant NF 7623-3

**Title:** Huntington’s Disease: Analysis of relations between the clinical, functional and morphometric findings

**Period:** 2002–2005

**Author:**
- Assoc. Prof. Jan Roth, M.D., Ph.D.  
  *Neurology Clinic, CU 1st Medical Faculty*

**Co-author:**
- Josef Symazal, M.D., Ph.D.,  
  *Department of Radiology, Na Homolce*

Magnetic resonance plays an important role in researching hitherto poorly-understood neurological disorders. Huntington’s Disease falls into this category, a hereditary condition affecting predetermined areas of the cerebral gray matter, first causing deterioration and later morphologically detectable shrinkage. In these cases, magnetic resonance can carry out non-invasive mapping of various areas of the brain and compare their volume and the intensity of the emitted signals with healthy volunteers of a similar age. This is the scope of the approved grant. The results of this project may significantly contribute to our understanding of the ways in which Huntington’s Disease damages the gray matter of the brain and how the magnetic resonance findings are correlated to the clinical state of the patient.

### Grant NR 7823-3

**Title:** A comparison of the results of electrical cortical stimulation and functional magnetic resonance

**Period:** 2004–2006

**Author:**
- Martin Sameš, M.D., Ph.D.  
  *Department of Neurosurgery, Masaryk Hospital, Ústí n/Labem*

**Co-author:**
- Josef Vymazal, M.D., Ph.D.  
  *Department of Radiodiagnostics, Na Homolce Hospital*

The project deals with the clinical use of functional magnetic resonance (fMRI) for stereonavigation during neurosurgical interventions, primarily in operations on cerebral tumors in the frontal and parietal lobes. The method enables areas of the brain cortex and the subcortical grey matter, which are involved in tackling concrete tasks - e.g. rhythmical movement of the limbs or when taking word fluency tests, to be detected. Brain tumors can push away, infiltrate or destroy the tissue. Thus the aim of the examination is to show the relation of the tumor to the motor and speech centers and to transform this information into the navigation system. This allows the neurosurgeon the possibility of seeing the cortical areas that are important in terms of maintaining the function and so should be spared during the intervention. The grant also aims to test the reliability of localizing these functional areas using fMRI. Because of this, electrical cortical stimulation of the brain cortex is carried out during the operation, which is performed while the patient is conscious. This is the only way to test the sensitivity and specificity of fMRI.
Grant IGA MZ ČR NC 7460-3

**Title:** The use of three-dimensional gel dosimetry to confirm irradiation procedures in radiation oncology

**Period:** 2003-2005

**Author:**
- Assoc. Prof. Josef Novotný, M.Sc., Ph.D.
  Department of Medical Physics, Na Homolce

**Co-authors:**
- Assoc. Prof. Tomáš Čechák, M.Sc., Ph.D.
  ČVUT, Prague
- Václav Spěváček, M.Sc.
  ČVUT, Prague
- Pavel Dvořák, M.Sc.
  ČVUT, Prague
- Jiří Michálek, M.Sc., Ph.D.
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  Institute of Macromolecular Chemistry
- Martin Přádný, M.Sc., Ph.D.
  Institute of Macromolecular Chemistry
- Jan Hrbáček, M.Sc.
  Motol Teaching Hospital

The objective of this proposed project is to bring the existing system of three-dimensional gel dosimetry into clinical practice. During the project, the dosimeter will be used to verify various irradiation techniques used in radiation oncology with the objective of increasing the overall quality of treatment. The chemical and physical parameters of the dosimeter will be studied during its preparation, irradiation and evaluation of nuclear magnetic resonance just as other measuring techniques are tested (using CCD cameras, for example). Three-dimensional gel dosimetry can offer advantages not found in other dosimetric methods: 1) the dosimeter is tissue equivalent and can create its own testing phantom, 2) three-dimensional doses can be measured during a single irradiation session, using a single dosimeter and 3) the dosimeter enables unlimited simulated irradiation of the patient. Using three-dimensional gel dosimetry in clinical dosimetry would greatly increase the possibilities of controlling the overall radiation process during radiation oncology of the patient. The development of a suitable method for independent audit of planning systems or irradiation techniques would also help in fulfilling the conditions of Act no. 18/Coll. 1997 (on atomic energy) and related decrees. Bringing the gel dosimeter into clinical practice within the framework of this project should enable us to determine the conditions governing its future use in the Czech Republic, either to verify selected radiation oncology techniques in individual centers, or for use by the public bodies responsible for monitoring radiation safety.

Grant IGA MZ ČR NC 7568

**Title:** The importance of positron emission tomography (PET) with 18-fluorodeoxyglucose (18-FDG) in diagnosing malignant lymphoma in children and adolescents

**Period:** 2003-2005

**Author:**
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Co-author:
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An essential pre-condition for the successful treatment of malignant lymphoma in children (ML) is determining the extent of the disease. Conventional imaging methods enable morphological imaging of the tumor. Positron emission tomography (PET) uses glucose marked with radioisotopes to allow imaging of metabolic changes before anatomic changes can be perceived. While this examination has been found to be suitable for the initial staging and subsequent monitoring of adult oncological patients with ML, the role of PET in child ML diagnostics has not yet been defined.

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We intend to use this prospective study to judge the clinic importance of FDG-PET in determining the extent of the disease before commencing treatment and to monitor the response to treatment of children and adolescents with Hodgkins disease (HD) and non-Hodgkins lymphoma (NHL). The objective of the project is to define the role of PET in ML diagnostics and to propose the most suitable place for PET in the range of interventions available under the Czech healthcare system.

The results of this study should help to group patients by level of risk (to reduce the level of toxicity in treatments for children with positive findings while intensifying the treatment in high-risk patients) as well as improving the treatment results of child ML.
Title: Reduction in the toxicity of primary treatment of advanced Hodgkin lymphoma

Period: 2004–2009

Author:
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Co-author:
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The project takes place with the participation of the Karlovy Vary and Brno Teaching Hospitals in a randomized study of HD15 (5th generation Deutsche Hodgkin Lymphom Studiengruppe – DHSG). The objective of the study is to reduce the toxicity of the therapy and to monitor the prognostic importance of FDG-PET, which is performed at Na Homolce Hospital. The results will be compared with data from abroad and potential risk factors which may impact the regional modification of treatment of Czech patients will be analyzed. The project is based on close interdisciplinary and inter-institutional cooperation. In a wider context we can foresee Na Homolce Hospital becoming involved in cooperation with research centers in the EU.

Title: Correlations between the genotype and phenotype of family-related hypercholesterolemia in children and adolescents.

Period: 2003-2005

Author:
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Out of a total of 160 children attending the metabolic outpatients clinic for hypercholesterolemia, molecular-genetic testing to establish apoB100 and LDL receptors was carried out on 108 children, and an additional 213 tests were performed on their parents and closest family members (n=321). Of 10 types of LDL mutation receptors analyzed, the most frequently found mutations were 1272ins96 and G751E. The average value for total cholesterol levels (TC) at LDL mutation receptors was 7.4 mmol/l and in the Apo B100 7.2 mmol/l. 2 homozygotes were found for ApoB100 with levels of TC 11.7 and 10.7 mmol/l. The methodology used was an extremely complex method to establish cholesterol synthesis precursors (lathosterol, campesterol, desmosterol, lanosterol and sitosterol). The only significant correlation was between TC and lathosterol. The diagnostic spectrum of cholesterol precursors was used to diagnose suspected desmosterolosis in bone dysplasia with hypercholesterolemia. IMP ultrasound examination of the monitored children with family-related hypercholesterolemia did not detect, with the exception of one patient, positive changes in weight acquisition.
Title: Hyperhomocysteinemia in pregnancy: the role of genetic factors in the appearance of defects in the neural tube, orofacial clefts and preeclampsia

Period: 2001-2005

Author: Viktor Kožick, M.D., Ph.D.
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Co-author: Prof. J. Hyánek, M.D., Ph.D.
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The aim of the grant project was to study the role played by genetic factors related to homocystein metabolism in the development of certain complications during pregnancy. The study contributes to an understanding of the pathogenic mechanisms involved in preeclampsia and orofacial clefts. It should lead to improvements in treatment and, mainly, to preventing the occurrence of these human reproductive complications. New allele variants in the genes controlling the metabolism of homocystein are studied in the Czech population: CTH, GNMT, MAT1A, MAT2A, AHCY, PK. In the event of positive findings, imbalances in the bonds will be analysed to determine whether selected variants in the genes of the methionine and homocystein cycle actually contribute to the pathogenesis of neural tube defects, orofacial clefts or preeclampsia. Binding analysis will be used on the three generation families with several affected individuals, who are continually examined during the course of the project, to determine whether the genes of the methionine cycle really contribute to the development of the pregnancy complications that are being studied.

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Title: Idiopathic generalized epilepsy: Correlation between genotypes and phenotypes. Analysis of gene mutation for voltage-gated sodium-channels (SCN1A, SCN1B, SCN2A)

Period: 2002–2005

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genetic mechanisms involved in preeclampsia and orofacial clefts. It should lead to improvements in treatment and, mainly, to preventing the occurrence of these human reproductive complications. New allele variants in the genes controlling the metabolism of homocystein are studied in the Czech population: CTH, GNMT, MAT1A, MAT2A, AHCY, PK. In the event of positive findings, imbalances in the bonds will be analysed to determine whether selected variants in the genes of the methionine and homocystein cycle actually contribute to the pathogenesis of neural tube defects, orofacial clefts or preeclampsia. Binding analysis will be used on the three generation families with several affected individuals, who are continually examined during the course of the project, to determine whether the genes of the methionine cycle really contribute to the development of the pregnancy complications that are being studied.
GEFS+ type 2, which was first described in two French families in 1999, has been mapped to the 2nd chromosome (area 2q23 - q31; Lopes-Cendes et al 2000, Baulac et al 1999, Moulard et al 1999, Peiffer et al 1999). This locus was earlier presented in the literature under the name FEB3. These mutation areas were located in the voltage-gated sodium-channel alpha subunit genes (genes – SCN1A, SCN2A, SNA1A2 a SCN3A). Escayg (Escayg et al 2000) described mutations in the neuronal voltage-gated sodium-channel alpha-1 subunit gene, SCN1A. This gene contains 26 exons. The alpha-1 subunit is the tubular region of the channel peptide. So far, 6 point mutations that result in phenotypic GEFS+ have been identified in SCN1A. These mutations are in functionally different channel domains, but they may disrupt the gating mechanism by reducing the rate of inactivation of SCN1A as a result of persistent depolarization. Gene SCN1A was also described by Claes and coworkers (Claes et al 2001) as a candidate gene segregating with the SMEI (severe myoclonic epilepsy at infancy - see above) phenotype. In the case of SMEI, Claes localised 7 different point mutations in 4 exons, which were always found de novo. The aim of this grant project is the screening of candidate genes for mutations and correlating the molecular genetical results with incidences of clinical epilepsy.

Grant NR 8124-3

Title: Autosomal dominant spinocerebellar ataxia – extending molecular genetical diagnostics and on going longitudinal multidisciplinary study of patients’ families.

Period: 2003–2005

Author:
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Spinocerebellar ataxia (SCA) is a wide group of heterogeneous diseases with possible onset in childhood or adulthood. In most cases it has consequences for quality and length of life. An important contribution has been made by the current world advances in the molecular diagnostic aspects of hereditary ataxia, which positively reflects in both medical and socio-economic areas. The sole research institution involved in the CR has already been working on the problem of the complex diagnosis of SCA for 4 years. To improve the examination results and to keep pace with current world trends this project was submitted with purpose of introducing the molecular diagnostic AS SCA6-8, which covers about 80% of all incidences of AD SCA. The other 20% represent sporadic cases of AD SCA4-5, 10-17, and the diagnosis of which is still at the research stage. Apart from this, the study plans the specification of currently available DNA diagnostics of the Pelizaeus-
Title: Biochemical inflammation marker in exhaled air from asthmatic patients as a new method of monitoring the disease and a means of optimizing drug treatment

Period: 2002-2004

Author:
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Co-author:
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Associate of the co-author:
- František Pehal, M.Sc., fa Perose, Prague

The research undertaken for the purposes of this grant concerns the establishment of inflammation markers in exhaled air from asthmatic patients to ensure more precise diagnostics, to determine the seriousness of the disease, to enable differential diagnoses and to perfect the monitoring of the effectiveness of the treatment.

The research aims to establish direct markers indicating inflammation in the lower air passages of asthmatics, which have never before existed. The current diagnostic methods for asthma do not rely on any objective tests which would help to establish a definite diagnosis in a manner that is fast and non-invasive while being sufficiently sensitive and specific. The inflammation markers now used in the peripheral blood do not correlate to inflammation of the lower air passages and the other previously developed methods are invasive, stressful for the patient, and cannot be used routinely (bronchoscopy, lavage, biopsy.)

The co-authors, P. Čáp and F. Pehal, were the first in the Czech Republic to measure leukotrienes in standard samples of cooled air exhaled by 100 healthy adults and children and to compare the analyses with those taken from a group of treated asthmatics. For this they developed a method of direct measurement of leukotrienes using gas chromatography and mass spectrometry. The results achieved to date have been presented at the annual congress of allergological and pulmonary societies in the Czech Republic, published in specialized periodicals and are currently being printed and will appear in foreign professional publications. (Čáp P., Chládek J., Pehal F., Malý M., Petrů V., Barnes P.J. Montuschi P." Gas chromatography/mass spectrometry analysis of exhaled leukotrienes in asthmatic patients. Thorax, 2004, 6, 465-470 - Čáp P., Pehal F., Chládek J., Malý M.: Analysis of exhaled leukotrienes in nonasthmatic patients with seasonal allergic rhinitis. Allergy 2005; 60: 171-6).
Quality Health Care Project - Center for Quality in Health Care

Title: Affecting the quality of antibiotics used in order to control antibiotic resistance

Period: 2004

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- Prof. Jiřina Martinková, M.D., Ph.D.
  Pharmacological Institute, Medical Faculty, Hradec Králové
- Ludvík Štika, M.D., Ph.D.
  national coordinator for the ESAC project
- Prof. František Perlík, M.D.
  Pharmacological Institute, 1st Medical Faculty, Charles University

The Quality Project in 2004 follows on from a project with an identical thematic trend, which was completed in 2003, and whose final report is available from the Center for Quality in Health Care. Both projects are closely related to the national program of antibiotic policies, which was formulated in 2003, and in the same year was taken up as informational material by the government of the Czech Republic. The project author is the specialized coordinator of the national program of antibiotic policies which was created by the Committee for the national program of antibiotic policies at the Ministry of Health. The national program sets out the basic principles underlying the national antibiotic policies, which originate from recommendations from the European Union and WHO and relate to certain European activities (EARSS - European Antimicrobial Resistance Surveillance System, ESAC – European Surveillance of Antibiotic Consumption, Prudent use of antimicrobials at DG SANCO).

The national program assumes the existence of a network of antibiotic centers as basic operating units, responsible at a local and regional level for the high quality of antibiotics used and for monitoring antibiotic resistance. The priority and objective of both projects was therefore to create a methodological approach and routine tools for the practical implementation of their basic tasks, as they are defined in the founding document of the national program for antibiotic policies. Effective control of antibiotic resistance at a national level requires innovative action from the antibiotic centers, which will function according to health care quality management methodology. It assumes a relation to the accreditation systems for health care facilities, which require the relevant standards to be set down and measurable indicators in the area of use of antibiotics and in the management activities of the antibiotic centers.

Because of this, in 2003 and 2004, the project has focused on the following areas:
- Surveillance of antibiotic resistance in the community and the hospital
- Measuring, evaluation and influencing the quality of antibiotics used in primary care
- Measuring, evaluating and influencing the quality of antibiotics used for hospital care.
A SELECTION OF 2004 PUBLICATIONS

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Vrba, I.  

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Vrba, I.  
Vrba, I.

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TEACHING ACTIVITIES IN 2004

Undergraduate teaching

The following specialized units from Na Homolce Hospital participated in the teaching of students from Charles University’s Faculty of Medicine, the Faculty of Natural Sciences and the Faculty of Physical Education and Sport and the University of Southern Bohemia.

| Department of Neurology                  | CU 1st MF, CU 3rd MF |
| Department of Neurosurgery               | CU 1st MF, CU 3rd MF |
| Department of Stereotactic and Radiation Neurosurgery | CU 3rd MF |
| Department of Cardiology                 | CU 3rd MF |
| Department of Cardiac surgery            | CU 3rd MF |
| Department of Vascular Surgery           | CU 2nd MF |
| Department of Internal Medicine          | CU CU 3rd MF |
| Department of Surgery                    | CU 3rd MF |
| Department of Nephrology                 | CU 2nd MF, FPES |
| Department of ENT                        | CU 2nd MF |
| Department of AR                         | CU 3rd MF |
| Department of Radiodiagnostics           | CU 1st MF, CU 3rd MF, USB |
| Department of Nuclear Medicine/PET Center| CU 1st MF, CU 3rd MF |
| Department of Clinical Microbiology      | CU 1st MF, CU 2nd MF, FNS |

Post graduate teaching with the Institute for Post Graduate Studies

The following specialized units from Na Homolce Hospital participated in the post graduate teaching of physicians and nursing through the IPGS.

<p>| Department of Neurology                  | Acute neurology |
|                                        | Neurological intensive care |
|                                        | Epileptology |
| Department of Neurosurgery              | Neurotraumatology |
|                                        | Neurooncology  |
| Department of Stereotactic and Radiation Neurosurgery | Stereotactic neurosurgery |
| Department of Cardiology                | Echocardiograms |
| Department of Vascular Surgery          | Vascular surgery |
| Department of Surgery                   | Surgery |</p>
<table>
<thead>
<tr>
<th>Department of Gynecology and minimally invasive surgery</th>
<th>Laparoscopic gynecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of AR</td>
<td>Anesthesiology and Resuscitation</td>
</tr>
<tr>
<td></td>
<td>Emergency medicine</td>
</tr>
<tr>
<td>Department of Radiodiagnostics</td>
<td>Neurology</td>
</tr>
<tr>
<td></td>
<td>Radiology</td>
</tr>
<tr>
<td>Department of Nuclear Medicine/PET Center</td>
<td>Nuclear Medicine</td>
</tr>
<tr>
<td></td>
<td>Radiodiagnostics</td>
</tr>
<tr>
<td>Department of Clinical Biochemistry, Hematology and Allergology</td>
<td>Clinical Immunology</td>
</tr>
<tr>
<td></td>
<td>Allergology</td>
</tr>
<tr>
<td></td>
<td>Spinal fluid</td>
</tr>
<tr>
<td></td>
<td>Urine sediments</td>
</tr>
<tr>
<td>Department of Clinical Microbiology</td>
<td>Clinical Microbiology</td>
</tr>
<tr>
<td></td>
<td>Anesthesiology and Resuscitation</td>
</tr>
<tr>
<td></td>
<td>Intensive medicine</td>
</tr>
<tr>
<td></td>
<td>Neurology</td>
</tr>
<tr>
<td></td>
<td>Infectious medicine</td>
</tr>
<tr>
<td></td>
<td>Industrial medicine</td>
</tr>
</tbody>
</table>

### Other post graduate training

Managing Director’s office, Finance Division  
CU 1st MF, CU 3rd MF,  
CMC Graduate School of Business

### Other training and reference centers

| Department of Neurosurgery | Center for navigational neurosurgery for CR and the countries of the eastern European region  
|                           | Center for dynamic stabilization of the spine (Bryan, Prestige) for CR and countries of the eastern European region |
| Department of Cardiology  | Center for resynchronization treatment of heart failure (biventricular stimulation) for EU countries |
| Department of Surgery     | Center for anal prolapse and hemmorhoid Long surgery for CR  
|                           | Center for ankle joint surgery  
|                           | Center for knee joint surgery  
|                           | Center for Orthopilot orthopedic navigation |
| Department of Clinical Biochemistry Hematology and Allergology | Reference laboratory for the system of external quality control in clinical biochemistry  
|                                                         | Reference laboratory for the system of external quality and control in spinal fluid |
### Other training activities

<table>
<thead>
<tr>
<th>Department of Surgery</th>
<th>Training of physicians for the International Health Medical Education Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Nuclear Medicine/PET Center</td>
<td>Training course for foreign experts and advisory activities for a model project run by the International Atomic Energy Agency (IAEA)</td>
</tr>
<tr>
<td>Department of Stereotactic and Radiation Neurosurgery</td>
<td>Training course for foreign experts at the International Atomic Energy Agency (IAEA) and Elekta</td>
</tr>
</tbody>
</table>

### Czech Medical Chamber accreditation for training in the physicians’ lifetime training program

CMC accreditation has been awarded to specialized Na Homolce Hospital units in the following areas:

- Allergology and Clinical Immunology
- Anesthesiology and Resuscitation
- Dermatovenerology
- ENT
- Epidemiology
- Balneology and Physiotherapy
- Gynecology and Obstetrics
- Surgery
- Internal Medicine
- Medical Microbiology
- Cardiology
- Cardiac Surgery
- Clinical Biochemistry
- Neurology
- Neurosurgery
- Nuclear Medicine
- Ophthalmology
- Pathological Anatomy
- Pediatrics
- Radiodiagnostics
We treat our clients with respect – which enhances the prestige of our hospital.

We are constantly aware of the fact that we are providing a service for our clients.

We can satisfy the most demanding requirements of our patients at a level comparable to the best available in Europe and the world.

We always maintain a high standard of behavior and treat our clients as partners.
Customer orientation

Patient Safety as a Priority 93
Patient Satisfaction Survey Questionnaires 2000 to 2004 95
State-of-the-art / Unique Therapeutic Interventions in 2004 96
Patient Clubs in 2004 99
PATIENT SAFETY AS A PRIORITY

The accreditation of a health care facility sends out a signal that it not only complies with all the required standards covering the organization and provision of health care, but that it is also making planned efforts towards improvements in this area and a systematic reduction of risk for its patients and employees.

Quality and Safety Committee

In 2004, Na Homolce Hospital launched a system to improve quality and safety within the framework of the accreditation process. Its goal is to minimalize the human error factor in the process of providing health care. The entire system is based on the active identification of errors and inadequacies in the organization and provision of care to the patients and the gradual introduction of programs to eliminate or improve them. Na Homolce has established 19 priority processes, which play an important role in the provision of quality and safe care to its patients.

Examples of the processes monitored and their indicators

<table>
<thead>
<tr>
<th>Key process</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration of medication</td>
<td>Number of errors in drug administration /1,000 days of treatment</td>
</tr>
<tr>
<td>Checking nosocomial infections</td>
<td>Number of blood supply infections /1,000 days of treatment</td>
</tr>
<tr>
<td>Monitoring patient satisfaction</td>
<td>Average level of satisfaction with outpatient waiting times (1 to 5)</td>
</tr>
<tr>
<td>Risk management</td>
<td>Number of patient falls /1,000 days of treatment</td>
</tr>
</tbody>
</table>

Dozens of indicators are being monitored in order to assess the level of all priority processes in the hospital and to ensure their safety. Since March 2004, the hospital has not only been following the number of falls by patients and detecting bedsores and infections, but also errors that have occurred in the administration of medication or serious failures in diagnostic or therapeutic procedures. Part of the monitoring system also covers the early discovery of errors (e.g. a patient being allergic to a given drug, discovered just before the drug was administered), because these also need to be eliminated.

In September 2004, the Managing Director of Na Homolce Hospital established a Quality and Safety Committee. Doctors, nurses and administrative and technical personnel are all represented on this committee. The twenty-three member committee is interdisciplinary, which allows it to make a comprehensive evaluation of undesirable incidents that are reported and the
results of the quality indicators. The committee also channels suggestions from employees and comments relating to practices followed by individual units. On the basis of its analysis of the risks, it proposes remedial and preventive measures to the Na Homolce Hospital management. One of the main areas of care in an accredited hospital must be patient safety. One of the most important aspects of this is the unambiguous identification of patients and medical supplies. In June 2004, Na Homolce Hospital initiated a trial period when identification bracelets were used as proof of patient identity. Since November of this year all ward patients have been routinely issued with what is called a PID (Personal Identification) - a plastic bracelet with a bar code which they wear on their wrists. This can be used not only to provide information about the patient’s true identity, as well as to list any interventions that have been performed at the hospital or are due to be performed.

An important factor in reducing prescription errors has been the introduction of an integrated record of prescription and medication administered throughout the hospital. All drugs administered to ward patients are set out in standard format and always filed in the same folder in the medical records, in every hospital department.

Rights of patients and their families

An essential element in providing medical care in an accredited hospital is the patients’ right to be informed in a comprehensible way of the nature of their illness and the proposed treatment, including details of any available alternatives and the likelihood of success of the treatment. A special directive drawn up in 2004 also provides a register of major diagnostic or therapeutic interventions which require the patient’s written approval. Without this approval, the intervention cannot be performed. Of course the patient has the right to refuse any proposed diagnostic or therapeutic intervention, again on the basis of written confirmation. Na Homolce Hospital also lays great emphasis on maintaining the confidentiality of all information concerning the state of health of its patient. On admission to hospital patients are always asked to provide the names of those people who can be informed of their state of health.
RESPONSES TO QUESTIONNAIRES ON PATIENT SATISFACTION FROM 2000 TO 2004

*(on a scale of 1-5)*

### Admissions procedure

<table>
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<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
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</thead>
<tbody>
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<td>1.12</td>
<td>1.13</td>
<td>1.12</td>
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</table>

### Staff attitude and willingness to help

<table>
<thead>
<tr>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<tbody>
<tr>
<td>Rating</td>
<td>1.13</td>
<td>1.12</td>
<td>1.12</td>
<td>1.13</td>
<td>1.12</td>
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</table>

### Interest in the patient and his/her needs

<table>
<thead>
<tr>
<th>Year</th>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
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<tbody>
<tr>
<td>Rating</td>
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<td>1.20</td>
<td>1.20</td>
<td>1.21</td>
<td>1.21</td>
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</table>

### Standard of care provided

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<tr>
<th>Year</th>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
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<tr>
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<td>1.09</td>
<td>1.10</td>
<td>1.08</td>
<td>1.09</td>
</tr>
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</table>

### Explanations given of the health disorder

<table>
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<tr>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<tr>
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<td>1.29</td>
<td>1.27</td>
<td>1.26</td>
<td>1.19</td>
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</table>

### Sufficient information provided on discharge

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>1.27</td>
<td>1.25</td>
<td>1.22</td>
<td>1.23</td>
<td>1.19</td>
</tr>
</tbody>
</table>
STATE-OF-THE-ART / UNIQUE MEDICAL INTERVENTIONS IN 2004

- **Plaato system**
  A new treatment method that prevents the development of strokes in patients suffering from a form of cardiac arrhythmia known as atrial fibrillation, and who do not tolerate anticoagulation therapy on a long-term basis. A self-expanding implant is delivered by catheter into the left atrial appendage, preventing the blood from coagulating and forming clots.

- **Stimulation treatment for angina pectoris**
  A new method of treatment for drug resistant angina pectoris, where a neurostimulator is implanted in the patient. This stimulates the spinal cord, thereby suppressing the perception of pain.

- **Bi-ventricular cardiac stimulation**
  Non-pharmalogical treatment for advanced cardiac failure using an implanted cardioverter-defibrillator to synchronize both heart ventricles to improve the heart’s function and to reduce the symptoms of advanced cardiac failure.

- **Surgery for cardiac valve defects**
  In cases of cardiac valve stenosis, the surgical treatment almost always entails replacing the defective valves with a valve prosthesis, while most cases of valvular insufficiency can be resolved by valvuloplasty.

- **Cryoablation for chronic atrial fibrillation**
  An operation that introduces special probes into the left atrium at temperatures of up to minus 150 degrees to freeze a line or border, which, after a certain period, changes into fibrous tissue, thereby preventing the development of severe cardiac arrhythmia, or atrial fibrillation.

- **Laparoscopic arterial reconstruction**
  The Department of Vascular Surgery in Na Homolce Hospital is the largest center in the Czech Republic specializing in surgical treatment of vascular diseases. It is currently the only unit performing demanding arterial reconstructions by laparoscopic, or minimally invasive methods.
Treatment of diseases of the aorta
Na Homolce Hospital is a specialized center for the treatment of diseases of or injuries to the largest artery in the human body – the aorta. This includes aortal transections, aortal dissections, occlusions of the aorta and aortal aneurysms.

Intraarterial thrombolysis in acute cerebral vascular disease
The most up-to-date and a extremely effective method of treatment for strokes developed on the basis of occlusion of the cerebral vessels by blood clots – thrombi. When these occur, and using x-ray monitoring, physicians apply a special substance, known as thrombolyticum, via a special microcatheter directly into the blood clot in the cerebral vessel, which the thrombolyticum disperses.

Endovascular treatment for cerebral aneurysms
A treatment for aneurysms of the cerebral vessels using detachable coil embolization. This entails the physicians using a catheter, under x-ray control, to introduce a special metallic coil directly into the aneurysm in the cerebral vessel. A blood clot forms around it and obliterates the aneurysm.

Surgical treatment of epilepsy
This represents an effective treatment for drug resistant epileptics, or patients suffering from epilepsy who do not respond to drug treatment over the long term. The patient can undergo an epileptosurgical operation at Na Homolce Hospital, to introduce vagal nerve stimulators or thermolesions, or they can be irradiated by Leksell gamma knife.

Leksell gamma knife treatment
The Leksell gamma knife is a device designed for the targeted irradiation treatment of cerebral diseases, most frequently anomalies of the cerebral vessels, brain tumors or certain functional diseases of the brain. Na Homolce Hospital is also the first center in the world to use the device to treat advance ocular glaucoma. The Leksell gamma knife was purchased through a nationwide collection from the citizens of the then Czechoslovakia in 1992 and is the only one of its kind in the Czech Republic and the eastern European region.

Dynamic stabilization of the spine
This solves certain types of degenerative diseases of the cervical and lumbar areas of the spine, either by using artificial prostheses to replace the intervertebral disks, or by implanting flexible systems to ensure the stability of the vertebra and enables movement to be maintained in the operated vertebral segments, with the potential for the disks to be regenerated.
**Bariatric surgery**

Surgical treatment for severe morbid obesity in patients who are unable to lose weight by conservative methods. Laparoscopic techniques are used to apply an adjustable band to the stomach and to perform a mini-gastric bypass, this being a minimally invasive intervention.

**Laparoscopic gynecological surgery**

Minimally invasive surgical techniques, which are extremely sparing of the patient, covering radical oncological surgery, laparoscopic reconstructive surgery of the urinogenital tract, hysteroscopic and laparoscopic reconstructions of congenital defects.

**PET/CT examinations**

Na Homolce Hospital’s Department of Nuclear Medicine / PET Center is equipped with a hybrid PET/CT scanner, which combines positron emission tomography and computer tomography in a single machine. This is currently the most up-to-date examination method for cancer diagnostics. The PET/CT scanner is the only one of its kind in the Czech Republic.
PATIENT CLUBS IN 2004

Club for parents of children suffering from lipid disorders

This Club was established in 1995 through the Clinic for Metabolic Disorders in Na Homolce Hospital. It links families with children suffering from inherited disorders related to the metabolism of lipids, known as hypercholesterolemia. Patients who have inherited this disorder have increased levels of cholesterol in their blood, which gives rise to a high risk of cardiovascular diseases. Basic treatment for children suffering from this disorder involves following a controlled low-calorie diet, with medication prescribed for those patients who are worst affected. The Club is affiliated with the Association for the assistance of chronically ill children, and in 2004 its membership totaled 117. The Club is run primarily by medical volunteers and parents. Parents, doctors and dietary nurses work closely together to form good health habits in families at risk, to provide information on health nutrition and suitable types of food products, as well as new discoveries concerning the treatment of hypercholesterolemia. The Club’s traditional and popular activities include the publication of the club magazine, Cholesterol, organized water therapy exercises in the Na Homolce Hospital pool, day or weekend trips, and, most of all, the summer fitness camp, focusing on a low cholesterol diet and exercise. During the summer of 2004, children and their parents met for what was the eighth week-long therapeutic camp with a low-calorie diet in Sloup, Bohemia. The Club for parents of children suffering from lipid disorders plays an important part in preventing cardiovascular disease by encouraging good nutrition and eating habits as well as increased physical activity.

Contact details:

Club for parents of children suffering from lipid disorders
Clinic for Metabolic Disorders
Na Homolce Hospital
Roentgenova 2, 150 30 Prague 5
Tel.: 257 273 229
E-mail: vera.martinikova@homolka.cz
Klub AA Homolka was established by the Department of Pediatric Allergology and Clinical Immunology in Na Homolce in 1998. It brings together families with children suffering from allergies and asthma. Last year membership numbers rose to 130 (families), representing not only patients treated at Na Homolce, but also those from other units in Prague and elsewhere. The club’s activities are diverse, ranging from the retrieval and circulation of information concerning individual allergic diseases, through the organization of discussions with experts for the parents, to the publication of the club magazine, Motýlek (Butterfly), which includes contributions from the children themselves, or organizing entertaining and educational activities for the young patients. The most popular club event is the annual three-week trip to the sea for children with allergies, when they are accompanied by medical professionals. This is for school-age children suffering from atopic eczema, bronchial asthma, allergic rhinitis, immune disorders or repeated respiratory infections. Last year the children spent their therapeutic holiday on the Olympic Riviera in Greece. Club AA Homolka is a member of the Association for the assistance of chronically ill children.

Contact details:     Klub AA Homolka
Dept. of Pediatric Allergology and Immunology
Na Homolce Hospital, Roentgenova 2, 150 30 Prague 5
Tel.: 257 272 017
Sports club for dialysis and transplant patients - Czech Sporting Association

The sports club for dialysis and transplant patients was established by the Hemodialysis Center at Na Homolce Hospital in 1995. It is a member of the Association of internally handicapped sportsmen and women and also a member of the WTGD and EDTPF international federations. Last year it united 197 active members and a number of supporters from throughout the Czech Republic. The club’s activities are not confined to creating and promoting an integrated physiotherapy program for patients who have to rely on artificial kidney treatment, or those living with a transplanted kidney (the creation of education and reference materials for the disabled, specialized lectures), but also extend into putting these ideas into practice. Examples of this are the organization of the annual winter and summer sporting competitions for dialysis and transplant patients. In 2004 the eleventh annual games were held in the Czech Republic. At the third European games for dialysis and transplant patients in Ljubljana, held under the auspices of the EDTSF, the Czech representation won 6 medals, while the Czech sportsmen and women brought back 4 medals last year from the 5th international games for transplant patients in Bormio, Italy, held under the auspices of the WTGF.

Contact details:
Sports club for dialysis and transplant patients
Hemodialysis Center
Na Homolce Hospital
Roentgenova 2, 150 30 Prague 5
Tel.: 257 272 220
E-mail: lukas.svoboda@homolka.cz
Our long-term financial stability allows us to satisfy the needs of our clients, partners and employees.

Our future is being built on the personal development of our employees – it is a fundamental resource, ensuring a highly effective hospital.
Economic stability

2004 Economic Information  
Na Homolce Hospital Benchmarking in 2004  
Operating Efficiency  
Economic Structure of Na Homolce Hospital
Thanks to the high level of discipline, enthusiasm and hard work from all our employees, 2004 was a successful year for Na Homolce Hospital. The fact that, primarily the physicians, but also other medical personnel accepted truly difficult assignments as a matter of course is, in my view, deserving of our deepest appreciation.

Whether we want it or not, we have become used to the fact that money is the deciding factor for the successful performance of any organization, and hospitals are no exception. Even in health care, profits have ceased to be seen as unsuitable.

The increased efficiency of the hospital resulted in net profits of 62 million crowns for the last financial year. This is nearly three times as much as in 2003. Hospital salaries rose by 6%, and by 8% for the nursing staff. Growth in activity led to an increase of 12% in income from the health care insurance companies. The Na Homolce Hospital management, together with officials from the Czech Ministry of Health and the hospital supervisory board, exercise strict control over the types of program these profits will be used to support. Traditionally they will be allocated to the development of medical technology in the hospital and to support employee motivation for the satisfactory performance of assigned tasks.

A further piece of good news in 2004 was the reduction in overhead costs. Year-on-year savings in hospital management and administrative costs exceeded 20 million crowns. The reverse was true of the cost of treating our patients - which is the hospital's primary vocation - which increased by 200 million crowns. Part of this money was certainly used in the preparation for compliance with JCI international accreditation standards, which required intensive efforts from the hospital last year. These will undoubtedly enable us to improve the quality of care and the safety of treatment for our patients.

The employee motivation system, based on simple and previously agreed indicators, has undoubtedly contributed to the hospital’s internal customer orientation. These ensure that common sense will prevail in the management of the individual departments and over the hospital as a whole. Each decision is immediately projected into the operating finances and individual departments and divisions can draw on their "own" budgets.

2005 will be the year when a ceiling is placed on income from the health insurance companies. The recipe for economic stability is the maintenance of a high volume of very specialized care, while at the same time targeting reductions in our operating costs and the cost of medical supplies. By calculating real costs per patient we can retroactively assess the relation between each crown invested and the outcome of the treatment process (evidence based medicine). The result will be the maintenance of a high level of quality with commensurable costs.

Long-term stability allows Na Homolce Hospital's patients to access the latest tried and tested technologies. 2005 will prove no exception to this rule as we aim to open a Center of Robotic Surgery to perform operations that place the least possible burden on the patient.

Pavel Brůna, M.Sc.
Director of Finance
Na Homolce Hospital
### BALANCE SHEET in thousands of CZK

#### ASSETS

<table>
<thead>
<tr>
<th>Description</th>
<th>As of 12.31.2003</th>
<th>As of 12.31.2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Fixed assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Intangible fixed assets</td>
<td>1,743,276</td>
<td>1,690,370</td>
</tr>
<tr>
<td>2. Accumulated depreciation of intangible fixed assets</td>
<td>–24,461</td>
<td>–28,894</td>
</tr>
<tr>
<td>3. Tangible fixed assets</td>
<td>2,766,497</td>
<td>2,807,186</td>
</tr>
<tr>
<td>4. Accumulated depreciation of tangible fixed assets</td>
<td>–1,127,946</td>
<td>–1,233,304</td>
</tr>
<tr>
<td>5. Financial investments</td>
<td>93,286</td>
<td>93,286</td>
</tr>
<tr>
<td><strong>B. Current assets</strong></td>
<td>667,966</td>
<td>773,714</td>
</tr>
<tr>
<td>1. Inventory</td>
<td>50,479</td>
<td>51,467</td>
</tr>
<tr>
<td>2. Receivables</td>
<td>355,006</td>
<td>443,189</td>
</tr>
<tr>
<td>3. Financial assets</td>
<td>68,325</td>
<td>52,088</td>
</tr>
<tr>
<td>5. Temporary credit accounts</td>
<td>194,156</td>
<td>186,970</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>2,411,242</td>
<td>2,424,084</td>
</tr>
</tbody>
</table>

#### LIABILITIES

<table>
<thead>
<tr>
<th>Description</th>
<th>As of 12.31.2003</th>
<th>As of 12.31.2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C. Own resources</strong></td>
<td>1,773,779</td>
<td>1,803,509</td>
</tr>
<tr>
<td>1. Property funds</td>
<td>1,775,460</td>
<td>1,722,549</td>
</tr>
<tr>
<td>2. Financial funds</td>
<td>–30,263</td>
<td>19,528</td>
</tr>
<tr>
<td>5. Net income</td>
<td>28,582</td>
<td>61,432</td>
</tr>
<tr>
<td><strong>D. Other resources</strong></td>
<td>637,463</td>
<td>620,575</td>
</tr>
<tr>
<td>1. Reserves</td>
<td>1,700</td>
<td>2,550</td>
</tr>
<tr>
<td>2. Long-term liabilities</td>
<td>214,930</td>
<td>154,173</td>
</tr>
<tr>
<td>3. Short-term liabilities</td>
<td>308,832</td>
<td>339,286</td>
</tr>
<tr>
<td>4. Bank credits</td>
<td>105,000</td>
<td>120,000</td>
</tr>
<tr>
<td>5. Temporary debit accounts</td>
<td>7,001</td>
<td>4,566</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>2,411,242</td>
<td>2,424,084</td>
</tr>
</tbody>
</table>
## PROFIT AND LOSS STATEMENT in thousands of CZK

as of December 31st 2004

<table>
<thead>
<tr>
<th>I. Revenue from merchandise</th>
<th>135,069</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Cost of goods sold</td>
<td>113,854</td>
</tr>
<tr>
<td>Sales margin</td>
<td>21,216</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Production</th>
<th>2,241,614</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Revenue from own products and services</td>
<td>2,241,614</td>
</tr>
<tr>
<td>B. 1. Material and energy consumption</td>
<td>1,134,762</td>
</tr>
<tr>
<td>2. Services</td>
<td>167,220</td>
</tr>
<tr>
<td>Value added</td>
<td>939,632</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Operating costs</th>
<th>5,313</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Personnel expenses</td>
<td>735,409</td>
</tr>
<tr>
<td>1. Wages and salaries</td>
<td>515,327</td>
</tr>
<tr>
<td>2. Social security expenses</td>
<td>191,650</td>
</tr>
<tr>
<td>3. Social expenses</td>
<td>28,432</td>
</tr>
<tr>
<td>D. Taxes and fees</td>
<td>1,286</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROSS OPERATING REVENUE</th>
<th>229,467</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Depreciation of tangible and intangible fixed assets</td>
<td>129,494</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. Revenue from sales of tangible and intangible fixed assets and materials</th>
<th>67</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. Net book value of tangible and intangible fixed assets sold</td>
<td>591</td>
</tr>
<tr>
<td>Revenue from tangible and intangible fixed asset sales</td>
<td>-523</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V. Accounting for reserves and accruals and deferrals</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Additions to reserves and accruals and deferrals</td>
<td>850</td>
</tr>
<tr>
<td>Difference between accounted and additional reserves, accruals and deferrals</td>
<td>-850</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VI. Revenue from sales of securities</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Securities sold</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VIII. Other revenue</th>
<th>65,210</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Other operating expenses</td>
<td>93,131</td>
</tr>
<tr>
<td>J. Income tax</td>
<td>9,248</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROFIT FOR THE CURRENT ACCOUNTING PERIOD</th>
<th>61,432</th>
</tr>
</thead>
</table>
## Breakdown of costs by type in 2004

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>46%</td>
</tr>
<tr>
<td>Energy</td>
<td>1%</td>
</tr>
<tr>
<td>Staff</td>
<td>30%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>6%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>17%</td>
</tr>
</tbody>
</table>

## Breakdown of costs by unit in 2004

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Sector</td>
<td>80%</td>
</tr>
<tr>
<td>Neuroprogram</td>
<td>10%</td>
</tr>
<tr>
<td>Cardiovascular program</td>
<td>36%</td>
</tr>
<tr>
<td>General Medical Care program</td>
<td>10%</td>
</tr>
<tr>
<td>Complementary Services</td>
<td>18%</td>
</tr>
<tr>
<td>Outpatient clinics outside the main programs</td>
<td>1%</td>
</tr>
<tr>
<td>Anesthesiology and Resuscitation program</td>
<td>4%</td>
</tr>
<tr>
<td>Sterilization</td>
<td>1%</td>
</tr>
<tr>
<td>Commercial Sector</td>
<td>5%</td>
</tr>
<tr>
<td>Health Care Commercial Department</td>
<td>1%</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>3%</td>
</tr>
<tr>
<td>Rentals</td>
<td>1%</td>
</tr>
<tr>
<td>Administrative Sector</td>
<td>15%</td>
</tr>
<tr>
<td>Economy and management</td>
<td>9%</td>
</tr>
<tr>
<td>Technical and operational</td>
<td>6%</td>
</tr>
</tbody>
</table>

## Breakdown of revenue in 2004

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Health Insurance Company</td>
<td>60%</td>
</tr>
<tr>
<td>Other health insurance companies</td>
<td>27%</td>
</tr>
<tr>
<td>Direct payments</td>
<td>3%</td>
</tr>
<tr>
<td>Miscellaneous revenue</td>
<td>10%</td>
</tr>
</tbody>
</table>
## NA HOMOLCE HOSPITAL BENCHMARK MARKING 2004

### Bed occupancy rate (as a %)

<table>
<thead>
<tr>
<th></th>
<th>Na Homolce Hospital</th>
<th>CR average</th>
<th>Prague hospitals</th>
<th>Czech hospitals</th>
<th>Moravian hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed occupancy rate (%)</td>
<td>91.7</td>
<td>81.4</td>
<td>80.6</td>
<td>78.5</td>
<td>84.1</td>
</tr>
</tbody>
</table>

### Average length of treatment (in days)

<table>
<thead>
<tr>
<th></th>
<th>Na Homolce Hospital</th>
<th>CR average</th>
<th>Prague hospitals</th>
<th>Czech hospitals</th>
<th>Moravian hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average length of treatment (in days)</td>
<td>5.89</td>
<td>8.60</td>
<td>8.89</td>
<td>8.30</td>
<td>8.81</td>
</tr>
</tbody>
</table>
Average monthly salary (in CZK)

<table>
<thead>
<tr>
<th></th>
<th>Na Homolce Hospital</th>
<th>CR average</th>
<th>Prague hospitals</th>
<th>Czech hospitals</th>
<th>Moravian hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average (in CZK)</strong></td>
<td>28,206</td>
<td>20,915</td>
<td>20,894</td>
<td>20,847</td>
<td>19,267</td>
</tr>
</tbody>
</table>

Cost effectiveness (as a %)

<table>
<thead>
<tr>
<th></th>
<th>Na Homolce Hospital</th>
<th>CR average</th>
<th>Prague hospitals</th>
<th>Czech hospitals</th>
<th>Moravian hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost effectiveness</strong></td>
<td>2.6</td>
<td>3.2</td>
<td>0.3</td>
<td>3.6</td>
<td>6.5</td>
</tr>
</tbody>
</table>
### Overdue receivables as a percentage of total costs

<table>
<thead>
<tr>
<th>Hospital Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na Homolce Hospital</td>
<td>8.3</td>
</tr>
<tr>
<td>CR average</td>
<td>6.6</td>
</tr>
<tr>
<td>Prague hospitals</td>
<td>6.7</td>
</tr>
<tr>
<td>Czech hospitals</td>
<td>6.5</td>
</tr>
<tr>
<td>Moravian hospitals</td>
<td>6.2</td>
</tr>
</tbody>
</table>

### Overdue payables as a percentage of total costs

<table>
<thead>
<tr>
<th>Hospital Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na Homolce Hospital</td>
<td>2.0</td>
</tr>
<tr>
<td>CR average</td>
<td>7.9</td>
</tr>
<tr>
<td>Prague hospitals</td>
<td>11.7</td>
</tr>
<tr>
<td>Czech hospitals</td>
<td>0.1</td>
</tr>
<tr>
<td>Moravian hospitals</td>
<td>9.4</td>
</tr>
</tbody>
</table>
OPERATING EFFICIENCY

Costs and revenue from 2000 to 2004 (in millions of CZK)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td>1,344</td>
<td>1,640</td>
<td>1,924</td>
<td>2,189</td>
<td>2,386</td>
<td>197</td>
</tr>
<tr>
<td>Revenue</td>
<td>1,397</td>
<td>1,665</td>
<td>1,982</td>
<td>2,218</td>
<td>2,456</td>
<td>238</td>
</tr>
</tbody>
</table>

Revenue rose faster than costs by 2% in 2004.

Operating profits from 2000 to 2004 (as a %)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.95</td>
<td>1.56</td>
<td>3.03</td>
<td>1.31</td>
<td>2.57</td>
</tr>
</tbody>
</table>

Profitability rose by 1.26% in 2004 (profits were 41 million crowns higher).
Hospitalization costs fell. An increase in the number of inpatients with slower rises in costs (salaries, medication, administration)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ward Medical Supplies</th>
<th>Ward Medication</th>
<th>Total Hospitalization Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>3,210</td>
<td>3,456</td>
<td>63,343</td>
</tr>
<tr>
<td>2003</td>
<td>3,160</td>
<td>3,771</td>
<td>66,114</td>
</tr>
</tbody>
</table>

ECONOMIC STABILITY
Management and operating overheads as a percentage of total costs in 2003 and 2004 (in thousands of CZK)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>CS</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>HCS</td>
<td>77%</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS</td>
<td>374,167</td>
<td>356,162</td>
</tr>
<tr>
<td>CS</td>
<td>127,259</td>
<td>108,052</td>
</tr>
<tr>
<td>HCS</td>
<td>1,694,560</td>
<td>1,930,710</td>
</tr>
</tbody>
</table>

Overheads fell by 2% (18 million CZK)
### Intensity of work measured by the number of points per physician

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points (in thousands)</td>
<td>985,700</td>
<td>1,078,987</td>
<td>1,176,176</td>
<td>1,279,874</td>
<td>1,468,495</td>
</tr>
<tr>
<td>Physicians</td>
<td>202</td>
<td>205</td>
<td>226</td>
<td>243</td>
<td>240</td>
</tr>
</tbody>
</table>

### Points per physician (in thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Points per physician (in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>6,119</td>
</tr>
<tr>
<td>2003</td>
<td>5,267</td>
</tr>
<tr>
<td>2002</td>
<td>5,204</td>
</tr>
<tr>
<td>2001</td>
<td>5,263</td>
</tr>
<tr>
<td>2000</td>
<td>4,880</td>
</tr>
</tbody>
</table>
ECONOMIC STRUCTURE OF NA HOMOLCE HOSPITAL

STYLMED H, a. s.

Roentgenova 2, Praha 5
Date established: 7. 1. 1998
Ownership structure to December 31st, 2004: Na Homolce Hospital 70%
Other shareholders 30%
Sphere of business: Distribution of health care appliances
Distribution of pharmaceuticals

Stylmed H, a. s. was established for the purpose of combining purchases of health care materials and pharmaceuticals originally only for Na Homolce Hospital, but now for a group of customers from a series of health care facilities. Given the strong position of the primary supplier, the company guarantees its customers low prices year-round through a number of discounts as well as reductions based on the volume of turnover.

Stylmed H performed all the tasks established for it by the majority shareholder in 2004.

<table>
<thead>
<tr>
<th>Tasks for 2004</th>
<th>2004 Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in health care consumables</td>
<td>0%</td>
</tr>
<tr>
<td>Increase in separately charged consumables</td>
<td>0%</td>
</tr>
<tr>
<td>Operating costs as a percentage of the total</td>
<td>&lt; 6.8%</td>
</tr>
<tr>
<td>Pre-tax profits</td>
<td>&gt; 5 mil. CZK</td>
</tr>
</tbody>
</table>

A year-on-year comparison of a basket of consumables supplied to Na Homolce Hospital shows a 2.7% drop in prices in 2004 (representing savings of around 10 million CZK). In addition to its share of the profits, the hospital received a bonus of 12 million CZK on turnover.
Consult H, s. r. o.
Roentgenova 2, Prague 5
Date established: June 20th, 1998
Ownership structure to December 31st, 2002: Na Homolce Hospital 100%
Sphere of business: Business, financial, organizational and economic advisory services

The company provides advisory services for the health care sector, mainly specializing in the area of legal forms and consulting for health care facilities undergoing restructuring, introducing controlling and implementing management control tools. Its goal is to be an organization that is systematically employed to solve problems for individual health care facilities or for a network of hospitals at the regional level.

It helps to provide quality, accessible and low cost health care. It organizes conferences and workshops dealing with the themes set out above.

It is also a service organization, holding shares in the Výzkumný ústav pletařský, a.s. in Brno. Consult H., s. r. o. reported profits for the 2004 financial year.

Výzkumný ústav pletařský, a. s.
Šujanovo nám. 3, Brno
Date established: March 20th, 1991
Ownership structure to December 31st, 2004: Consult H, s. r. o. 100%
Sphere of business: Research and development in knitting and ribbon-making methods and technologies, including non-woven textiles and health care products
Production of medical supplies
Production of textiles and textile products

In 2004 the company marketed and sold its products under the brand names METEA and KLIMATEX.

Under the brand name, METEA, the company produces unique medical textiles, particularly woven vascular prostheses. Last year its total production received CE certification. This reflects the fundamental improvement in the quality of its vascular prostheses to the level of the major global producers. Its turnover in this area was over 22 million crowns. A new market was found in Tunis while it continued to sell its products to Latin America.

The KLIMATEX product range covers special textiles with high added value, used to make functional clothing. Last year’s turnover reached 39 million CZK. 1/3 more customers wore its functional clothing than in 2003.

Major customers of this brand include the SPORTISIMO chain of sports shops, the downhill ski and snowboard representatives, the Athens 2004 cycling team (twice Czech champions) and other important sporting personalities. The company reported profits of 5.7 million crowns for the 2004 financial year.
O NÁS

- Slovo na úvod
- Vedení a orgány nemocnice
- Zpráva dozorčí rady
- Organizační struktura v roce 2004
- Základní charakteristika
- Události v roce 2004
- Personální a sociální politika
- Výrok auditora

KVALITA

- Přehled činnosti klinických programů
- Řízení kvality v roce 2004
- Granty řešené v roce 2004
- Výběr publikační činnosti v roce 2004
- Výuková činnost v roce 2004

ZÁKAZNICKÁ ORIENTACE

- Bezpečnost pacienta je prioritou
- Dotazníkové šetření spokojenosti pacientů v letech 2000–2004
- Spíškové / unikátní léčebné zákroky v roce 2004
- Pacientské kluby v roce 2004

EKONOMICKÁ STABILITA

- Ekonomické informace v roce 2004
- Nemocnice Na Homolce v oborovém porovnání v roce 2004
- Efektivita provozu
- Ekonomická struktura Nemocnice Na Homolce