Pharmaceutical Health Information System

PHIS Hospital Pharma Report 2009

AUSTRIA

**Commissioned by the European Commission,
Executive Agency for Health and Consumers (EAHC) and
the Austrian Federal Ministry of Health (BMG)**

PHIS

Pharmaceutical Health Information System

AUSTRIA

PHIS Hospital Pharma Report

Final version, June 2009

PHIS Network Participants
Gesundheit Österreich GmbH / Geschäftsbereich ÖBIG: Sabine Vogler, Claudia Habl, Christine Leopold, Simone Morak, Nina Zimmermann
Main Association of Austrian Social Security Institutions (Hauptverband der österreichischen Sozialversicherungsträger): Peter Wieninger
Austrian Federal Ministry of Health (Bundesministerium für Gesundheit, BMG): Gernot Spanninger, Daniela Huber

PHIS Hospital Pharma Report – Authors
Gesundheit Österreich GmbH / Geschäftsbereich ÖBIG: Nina Zimmermann, Sabine Vogler

PHIS Hospital Pharma Report – Editorial Team
State Institute for Drug Control SUKL, Slovakia: Jan Mazag, Barbara Bilančíková
Gesundheit Österreich GmbH / Geschäftsbereich ÖBIG, Austria: Simone Morak (Editor-in-Chief), Claudia Habl, Christine Leopold

Responsible for the PHIS Hospital Pharma Report Template
State Institute for Drug Control SUKL, Slovakia (Leader of Work Package 7: Hospital Pharma): Jan Mazag, Barbara Bilančíková
Gesundheit Österreich GmbH / Geschäftsbereich ÖBIG, Austria (PHIS Project Leader): Sabine Vogler, Christine Leopold

Acknowledgements

We would like to thank the following experts for contributing to the drafting of the present report (in alphabetical order):

Mag. Marion Alt (LKH Oberwart), Mag. Hermine Binder (LKH St. Pölten), Univ. Prof. Dr. Wolfgang Buchberger, M.s.c, (LKH / University hospital Innsbruck), Mag. Elfriede Dolinar (EAHP, AKH Vienna), Dr. Arnold Gabriel (Health department of the Carinthian State Government), MMag. Katrin Gebhart (Orthopaedic hospital Speising, Vienna), Dr. Wolfgang Gerold (KAV Vienna), Dr. Klaus Kaltenbrunner (LKH Villach), Dr. Klaus Klaushofer (Hanusch hospital, Vienna), Dr. Max Laimböck (UoA Innsbruck), Mag. Thomas Langebner (BHS KH Linz), Dr. Arno Melitopulos (GÖG/ÖBIG), Mag. Petra Paretta (GÖG/ÖBIG), Dr. Siegfried Preindl (TGKK), Mag. Gabriele Schrammel (LKH Wiener Neustadt), Dr. Gerhard Speer (LKH / University hospital Innsbruck), Dr. Ralph Spernol (LKH Villach), Mag. Andreas Wachter (LKH Villach).

The data displayed in the report were gathered in personal meetings with experts or via telephone interviews. The report was drafted on the basis of the information and data provided by the experts, thus reflecting a nationwide understanding of the Austrian pharmaceutical system in hospitals.

The report is the outcome of joint work and efforts of the PHIS project team members at GÖG/ÖBIG.

Finally, we would like to thank Mag. Elfriede Dolinar (EAHP, AKH Vienna) and Prof. Richard Laing (WHO), member of PHIS Advisory Board, for reviewing the draft report.

Executive Summary

Background

The hospital system in Austria is quite diverse and shaped by the following dimensions: type of hospital, type of care, legal status, financing and funding, ownership and responsible bodies and the hospital size. Each of the dimensions characterises the structure, organisation and processes within a hospital or specific hospital associations.

According to Austrian law (Federal Hospitals Act) hospitals (both curing and nursing institutions) are defined as institutions, which are dedicated to the determination and monitoring of the health status by medical examinations / diagnostics, to the realisation of surgical operations, to prevention, improvement and curing of diseases by treatments, to birth or medical measures for reproduction and to medical care / special nursing of chronically ill patients.

The responsibilities in the inpatient sector are split between several players in the Austrian health system: Federal Ministry of Health, various other Ministries at the Federal State level, provinces (Länder) and municipalities, and the sickness funds as self-administrated public corporations. The Federal State is responsible for enacting basic principles and laws, whereas the legislation on implementation and the execution and enforcement thereof is the responsibility of the provincial governments. Hospitals are predominantly operated by the provinces, which are the main owners of Austrian hospitals.

In 2008, inpatient care for the Austrian population is provided by 266 hospitals with 63,790 available beds. Thereof 162 hospitals (61%) are public and 104 are private.

The Austrian hospitals are funded by a variety of bodies. In 2007 total health expenditure in hospitals amounted to € 10,949 Mio. 46% of the inpatient sector were financed by sickness funds, whereas 44% were covered by the Federal State, provincial and local governments. The remaining 10% were financed privately (private insurance institutions, private households).

Since January 1997, medical care in hospitals has been financed on the basis of a fee-for service and diagnosis related group (DRG) system. Of the 266 hospitals in Austria in 2008, 131 (49%) are so-called “fund hospitals”, which are eligible to receive public funds out of the provincial health funds (Landesgesundheitsfonds).

Pharmaceutical provision in hospitals

Within the Austrian inpatient sector three forms of pharmaceutical provision can be distinguished:

1. Hospital pharmacies for inpatient services only

   Out of the 266 hospitals, 46 are provided with a hospital pharmacy (at the end of 2008). The purchase and supply of pharmaceutical and diagnostic products as well as medical devices, the preparation of specific pharmaceuticals and the pharmaceutical support of

medical therapy and nursing ("patient-oriented pharmacy") are the main services offered by hospital pharmacists. One of the core tasks of hospital pharmacists is promoting safe and efficient use of pharmaceuticals in hospitals.

2. Hospital pharmacies for inpatient and outpatient services

Five of the hospital pharmacies act like as community pharmacy by virtue of holding long established rights and serve also outpatients.

3. Pharmaceutical depots (which are served by hospital pharmacies or community pharmacies)

Small hospitals in Austria often only dispose of a pharmaceutical depot. Pharmaceutical depots in public hospitals are only allowed to purchase the required pharmaceuticals from another licensed pharmacy in the European Economic Area (EEA). The production of pharmaceuticals is prohibited in pharmaceutical depots. Very often only qualified nursing staff is in charge of such facilities. Private hospitals are not allowed to run a hospital pharmacy; in most cases they have established a pharmaceutical depot.

Purchasing of pharmaceuticals in hospitals

In Austria the purchasing of pharmaceuticals and the setting of the pharmaceutical prices in the inpatient sector is organised in a decentralised way, with decisions taken by the hospital owner organisations. In most hospitals hospital pharmaceutical purchasing bodies (either the chief hospital pharmacist or a designated purchasing department per hospital owner organisation) are in charge of purchasing of pharmaceuticals and monitoring of consumption. In most cases they are in direct contact with the manufacturers and negotiate the prices. Public procurement procedures are only launched in rare cases (e.g. in case of comparable pharmaceuticals), but a rising trend can be observed. The agreed prices are mostly below the manufacturer price, as pharmaceutical companies grant special discounts to hospitals (which range from 0 to 99% of the price). In addition a small portion of pharmaceuticals is given cost-free to hospitals. Pharmaceutical prices are not publicly available. They are only communicated within the hospitals and integrated into the individual hospital IT-system where they can be consulted. Indeed the brands / pharmaceuticals which are used in hospitals influence the prescribing behaviour of outpatient doctors.

Reimbursement of pharmaceuticals in the inpatient sector

Pharmaceuticals are integrated in the lump sums which can be generated for reimbursement of the procedure and diagnosis-orientated case groups (DRG) in hospitals. An average consumption of pharmaceuticals per diagnosis was considered when calculating the lump sums. Some oncological pharmaceuticals present the only exception in the DRG lump sum system, as these pharmaceuticals are recorded as own diagnosis-orientated case groups. Approximately 50 defined single medical procedures (Medizinische Einzelleistungen, MEL) exist within the system where explicitly the dispensing of a specific oncological pharmaceutical is reimbursed.

In two provinces in Austria (Styria, Carinthia) a separate financing approach for oncological pharmaceuticals exists. In these provinces the main public hospital owner organisations have concluded agreements with the regional sickness funds (StGKK, KGKK) stating that the expenditure of oncological pharmaceuticals will be covered by the sickness fund even if they are dispensed in the inpatient sector.

Patients do not have to provide extra payments for pharmaceuticals.

Hospital pharmaceutical formulary and pharmaceutical commission

According to the Austrian Law (Federal Hospitals Act) the basis for the eligibility of a pharmaceutical to be used and to be reimbursed in the inpatient sector is the hospital pharmaceutical formulary. Each hospital, hospital association or hospital owner implements its own hospital pharmaceutical formulary. In Austria there is no separate reimbursement list / positive list of pharmaceuticals used in hospitals. The decision making body is the pharmaceutical commission (Arzneimittelkommission). Either each hospital has its own pharmaceutical commission or also joint hospital commissions per owner organisation are common.

The pharmaceutical commission consists of the chief hospital pharmacist (the head of the hospital pharmacy), the chief doctor, the chief nurse, the administrative director as well as a representative of the regional sickness funds (dependant on different regional regulations) and in some cases, specialist doctors. The defined tasks of a pharmaceutical commission are the compilation of a list of pharmaceuticals, which are used in hospital care (hospital pharmaceutical formulary), the update of the formulary and the formulation of guidelines on the purchasing and handling of pharmaceuticals. The commission decides on the basis of different criteria (therapeutic, medical, economic, cost-effective etc.) at their regular meetings (usually on a quarterly basis) if a pharmaceutical should be included in the list or not.

Hospital pharmaceutical formularies are electronically available in the different hospital IT systems, but are not publicly accessible.

Consumption of pharmaceuticals in hospitals

Usually pharmaceutical consumption in Austria is measured in packs. In the year 2006, 210.2 Mio. packages of pharmaceuticals were sold, thereof 11% were consumed by hospital pharmacies and 89% were sold to pharmacies in the outpatient sector. On top of the consumption in hospitals oncological pharmaceuticals and antibiotics can be found. Erythrocyte concentrates also play an important role.

Pharmaceutical expenditure amounts to less than 10% of the total expenditure within a hospital.

Monitoring of the use of pharmaceuticals in hospitals

As a basis for performance-related reimbursement, public hospitals have to present monthly diagnoses and services reports to the provincial government and/or State Health Fund in accordance with provincial legal provisions. The pharmaceutical commission can be authorised to monitor and control expenditure of pharmaceuticals within a hospital, a hospital owner organisation or hospital associations. In general, using statistics of the consumption and expenditure the hospital pharmacy analyses on a regular basis (twice or four times a year) the incurred pharmaceutical expenditure. Based on this information, the pharmaceutical commission tries to explore the reasons behind expenditure growth and, as a result, sets steps considered appropriate (e.g. personal conversations with the departments / persons concerned) to curb these developments.

The financial conduct of public authorities is reviewed by the Austrian Court of Audit (Rechnungshof) which also controls the activities of those hospitals receiving public funds to finance the hospitals.

The use of antibiotics, the safety of pharmaceuticals, the expenditure of oncological pharmaceuticals and the introduction of quality management systems are topics of interest of hospital pharmacies.

According to Evidence Based Medicine independent scientific reports and analyses (e.g. in international journals) have been systematically considered in decisions on the use and purchase of pharmaceuticals in Austrian hospitals. But Health Technology Assessment (HTA) reports of pharmaceuticals are only consulted on a rare basis.

Interface management

When prescribing pharmaceuticals for the time after discharge from hospital, the economically most favourable and therapeutically equal pharmaceuticals should be selected. Furthermore the Reimbursement Code (Erstattungskodex, EKO) of the Main Association of Austrian Social Security Institutions, which is the basis for reimbursement of pharmaceuticals in the outpatient sector, and the Guidelines on Economic Prescribing of Pharmaceuticals and Medicinal Products (Richtlinien über die ökonomische Verschreibweise von Heilmitteln und Heilbehelfen, RöV) should be considered, unless there are objections from the medical perspective.

In Austria the funding of the inpatient and the outpatient sector is separated which might lead to some responsibility and interface management problems. A shifting of expensive treatments to the other sector might be observed. Different projects work on an improved cooperation between the inpatient and outpatient sector.

Future developments

Currently a major health care reform plan is prepared which will – among other things – include measures on the funding (funding of the health system out of one source) and improved interface management (e.g. via the e-card).

Table of content

List of tables and figures

List of abbreviations

AAHP	Arbeitsgemeinschaft Österreichischer Krankenhausapotheker / Austrian Association of Hospital Pharmacists
AIFA	Agenzia Italiana del Farmaco / Italian Medicines Agency
AKH	Allgemeines Krankenhaus (e.g. in Vienna) / General Hospital
AMG	Arzneimittelgesetz / Medicines Act
Art.	Article
ASVG	Allgemeines Sozialversicherungsgesetz / Austrian Social Insurance Law
ATC	Anatomic Therapeutic Chemical classification
BGBl.	Bundesgesetzblatt / Federal Law Gazette
BHS	Barmherzige Schwestern / Religious Fraternity of the Merciful Sisters
BMG	Bundesministerium für Gesundheit / Federal Ministry of Health (since 2009)
BMGF	Bundesministerium für Gesundheit und Frauen / Federal Ministry of Health and Women
BMGFJ	Bundesministerium für Gesundheit, Familie und Jugend / Federal Ministry of Health, Family and Youth
BVerG	Bundesvergabegesetz / Austrian Federal Act on Public Tenders
DDD	Defined Daily Doses
DG SANCO	Health and Consumer Protection Directorate General of the European Commission
DRG	Diagnosis-Related Group
EAHC	Executive Agency for Health and Consumers
EAHP	European Association of Hospital Pharmacists
EC	European Commission
EEA	European Economic Area
EJHP	European Journal of Hospital Pharmacy Practice
EKO	Erstattungskodex / National Reimbursement Code in the outpatient sector
ELGA	Elektronische Gesundheitsakte / Electronic Health File
EU	European Union
GDP	Gross Domestic Product

GÖG/ÖBIG	Gesundheit Österreich GmbH, Geschäftsbereich ÖBIG / Austrian Health Institute
GP	General Practitioner
HE	Health Expenditure
HOSHE	Health expenditure in hospitals
HOSPE	Pharmaceutical expenditure in hospitals
HPF	Hospital Pharmaceutical Formulary
HTA	Health Technology Assessment
HVB	Hauptverband der österreichischen Sozialversicherungsträger / Main Association of Austrian Social Security Institutions (MASSI)
i.d.F.	in der Folge / consequently
IHHII	International Healthcare and Health Insurance Institute
IMS	Institut für Medizinische Statistik / Institute for Medical Statistics
INN	International Nonproprietary Name
ISO	International Standard Organisation
KAGES	Steiermärkische Krankenanstaltengesellschaft m.b.H. / Hospital association Styria
KAKuG	Krankenanstalten- und Kuranstaltengesetz / Federal Hospitals Act
KAV	Wiener Krankenanstaltenverbund / Vienna Hospital Association
KGKK	Kärntner Gebietskrankenkasse / Carinthian Sickness Fund
KH	Krankenhaus / hospital
KDOK	Program for the documentation in hospitals
KRAGES	Burgenländische Krankenanstalten-Ges.m.b.H. / Hospital association Burgenland
LDF	Leistungs- und diagnoseorientierte Fallgruppen / Diagnosis-Related Case Groups
LKF	Leistungsorientierte Krankenanstaltenfinanzierung / DRG based funding of hospitals
LKH	Landeskrankenhaus / publicly funded province hospital
MASSI	Hauptverband der österreichischen Sozialversicherungsträger / Main Association of Austrian Social Security Institutions
MEDSAFE	Project on Patient Safety

MEL	Medizinische Einzelleistungen / single medical procedures / services
No-	Number / Nummerr
NCU	National Currency Unit
Mio.	Million
ÖAK	Österreichische Apothekerkammer / Austrian Chamber of Pharmacists
ÖBIG	Österreichisches Bundesinstitut für Gesundheitswesen / Austrian Health Institute
OECD	Organisation for Economic Co-operation and Development
OPD	Outpatient department(s)
OPP	Out-of pocket payments
ÖSG	Österreichischer Strukturplan Gesundheit / Austrian Health Care Structural Plan
OTC	Over-The-Counter pharmaceuticals
PE	Pharmaceutical Expenditure
PHIS	Pharmaceutical Health Information System
PRIKRAF	Privatkrankenanstalten-Finanzierungsfonds / Private Hospital Fund
POM	Prescription-Only Medicines
PPP	Pharmacy Purchasing Price
PPPa	Purchasing Power Parities
PPRI	Pharmaceutical Pricing and Reimbursement Information project
PRP	Pharmacy Retail Price
RöV	Richtlinien über die ökonomische Verschreibweise von Heilmitteln und Heil behelfen / Guidelines on economic prescription of pharmaceuticals and medi cinal products
SHA	System of Health Accounts
StGKK	Steiermärkische Gebietskrankenkasse / Styrian Sickness Fund
SUKL	Statny Ustav pre Kontrlu Lieciv / State Institute for Drug Control (Slovakia)
TILAK	Tiroler Landeskrankenanstalten GmbH / Hospital association Tyrol
TGKK	Tiroler Gebietskrankenkasse / Tyrolean Sickness Fund
THE	Total Health Expenditure
TPE	Total Pharmaceutical Expenditure

UoA	Fachhochschule / University of Applied Sciences
VAT	Value Added Tax
VAAOE	Verband Angestellter Apotheker Österreichs / Union of Employed Pharmacists
WP	Work Package

Introduction

PHIS research project

PHIS (Pharmaceutical Health Information System) is a research project commissioned under the call for proposals 2007 in the priority area “health information” of the European Commission, DG SANCO. It has been commissioned by the Executive Agency for Health and Consumers (EAHC) and co-funded by the Austrian Ministry of Health (BMG).

The PHIS project aims at increasing knowledge and exchange of information on pharmaceutical policies, in particular on pricing and reimbursement, in the European Union (EU) Member States, covering both the outpatient and the inpatient sector.

This will be done via different work packages (WP) resulting in the following deliverables:

- the PHIS Glossary with key terms related to pharmaceuticals,
- the PHIS Library offering country specific information on outpatient and inpatient pharmaceutical pricing and reimbursement for the EU Member States,
- the PHIS Indicators and the PHIS Database, containing major data for the developed indicators in the Member States,
- the PHIS Hospital Pharma Report with information on pharmaceutical policies in the inpatient sector in the EU Member States, including a price survey.

The PHIS project management is a consortium of the project leader Gesundheit Österreich GmbH, Geschäftsbereich Österreichisches Bundesinstitut für Gesundheitswesen / Austrian Health Institute (GÖG/ÖBIG), which is a research institute situated in Vienna, Austria, and four associated partners:

- the Italian Medicines Agency (AIFA),
- the International Healthcare and Health Insurance Institute (IHHII), Bulgaria,
- SOGETI Luxembourg SA., which is a services provider, and
- the State Institute for Drug Control (SUKL), Slovakia

SUKL is the WP leader of Hospital Pharma.

Further key stakeholders are the PHIS Advisory Board covering EU Commission services and agencies and other international organisations, and the PHIS network, which comprises national representatives from competent authorities and further relevant institutions from the EU Member States and associated countries.

The PHIS project runs from September 2008 to April 2011 (32 months). Further information and all deliverables are made available at the PHIS project website http://phis.goeg.at .

PHIS Hospital Pharma

The aim of the work package “Hospital Pharma” is an in-depth investigation of the inpatient sector, as systematic knowledge of pharmaceutical policies in this sector has been rather poor.

The survey is divided in two phases:

- Phase 1: General survey

  Country reports on pharmaceuticals in hospitals (“PHIS Hospital Pharma Reports”), designed to describe specific pharmaceutical policies in the inpatient sector in the EU Member States (spring 2009).

- Phase 2: Case studies

  A specific survey, including a price survey, provided by means of case studies, in a limited number of hospitals in a few countries (autumn 2009).

The final PHIS Hospital Report, covering information from the general survey (phase 1) and the case studies (phase 2), is scheduled for February 2010.

Methodology of the general survey

The production of the country-specific PHIS Hospital Pharma Reports is based on three steps:

1. Development of a uniform PHIS Hospital Pharma Report Template

The PHIS Hospital Pharma Report Template offers a homogenous, very detailed structure for describing the pharmaceutical pricing and reimbursement system in the inpatient sector of a country. The Template was developed by SUKL, Slovakia (Work Package leader of Hospital Pharma) in coordination with GÖG/ÖBIG (PHIS project leader) and further members of the PHIS project management. It is based on literature and internet reviews as well as interviews with experts in the hospital sector in the EU Member States. Members of the PHIS network received the draft Template for feed-back, and had an opportunity to discuss and provide personal feed-back during a meeting.

2. Collecting information and data and drafting the PHIS Hospital Pharma Report

The country-specific PHIS Hospital Pharma Reports were written by members of the PHIS network. In order to get the needed information and data, hospital experts were contacted and involved in several countries. They provided information and data in written form and during telephone conservations and personal talks. In some countries the reports (or parts of it) were written by hospital experts. In several countries, the preparatory work for drafting the PHIS Hospital Pharma Reports also included study visits of the authors to hospitals and hospital pharmacies. Information on persons and institutions involved can be found in the “Acknowledgements” at the beginning of this PHIS Hospital Pharma Report and in section 8 “References and data sources”, listing “Literature and documents” (section 8.1) and “Contacts” (section 8.2).

3. Editorial process

The draft PHIS Hospital Pharma Reports were submitted to the project management for review, which was undertaken by SUKL, Slovakia (Work Package leader of Hospital Pharma) in coordination with GÖG/ÖBIG (PHIS project leader). The review focused on checking clarity and consistency in general and with regard to the outline of the Template and terminology (PHIS Glossary). In the course of the editorial process, the reviewers contacted the authors for providing feed-back on language and content, offering suggestions for re-phrasing and change and clarified open and/or misunderstanding points.

1 Background

1.1 Definition and scope

The hospital system in Austria is quite diverse and shaped by the following dimensions: type of hospital, type of care, legal status, financing and funding, ownership and responsible bodies and the hospital size. Each of the dimensions characterises the structure, organisation and processes within a hospital or specific hospital associations.

Definition of hospitals

The Federal Hospitals Act (Krankenanstalten- und Kuranstaltengesetz, KAKuG) defines hospitals (both curing and nursing institutions) as institutions, which are dedicated to:

- determination and monitoring of the health status by medical examinations / diagnostics;
- realisation of surgical operations;
- prevention, improvement and curing of diseases by treatments;
- birth;
- medical measures for reproduction or
- medical care and special nursing of chronically ill patients.[1]

The building and the operating of hospitals need to be authorised by the provincial government.[2]

By and large the Austrian definition of a hospital resembles the OECD definition.[3] Nevertheless slight differences occur, but which do not distort the international comparison of hospital figures:

- Within the OECD definition “prevention of diseases” is not mentioned.
- Within the Austrian definition no minimum size of a hospital is mentioned.

[1] Art. 1 of the Federal Hospitals Act [§1 Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

[2] Art. 3 of the Federal Hospitals Act [§3 Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

[3] OECD definition of a hospital http://www.oecd.org/dataoecd/44/44/1894818.pdf. Nursing homes, which primarily provide long term care services particularly for the elderly, would not normally be considered as “hospital” of the purpose of this PHIS Hospital Pharma Report.

Hospital outpatient services

Hospital outpatient departments (Spitalsambulanzen) play an important role as interfaces in the Austrian health care system. General and/or specialised hospital outpatient departments are established at practically all public and non-profit hospitals. Patients may visit these departments directly upon presentation of a health insurance card ("e-card"[4]) without referral by a general practitioner (GP). The following services are delivered: Hospital outpatient departments can be frequented for emergency services and for acute specialist care, as well as for preventive medical check-ups and for after-care. Some of the outpatient departments offer their services all day long. According to law[5], they have to provide care in emergencies in the respective special medical area (Fachrichtungen) and to determine complex diagnoses requiring a greater array on equipment, which cannot be provided within surgeries of general practitioners in the outpatient sector.

Therefore hospital outpatient departments are very often frequented by the Austrian population as medical services of many specialists can be expected at such facilities at one place.

1.2 Organisation

Traditionally, inpatient care has been playing a very important role in Austria. Austria is organised as a federal Republic with a parliamentary democracy, which joined the European Union in 1995. Legislative and executive powers are divided between the Federal Government and the nine provinces (Länder): Burgenland, Carinthia, Lower Austria, Salzburg, Styria, Tyrol, Upper Austria, Vorarlberg and Vienna. The federal structure of Austria also sets the framework for the organisation and financing of the Austrian health system and especially the hospital sector.

The responsibilities are distributed among several players in the Austrian health system: Federal Ministry of Health, various Ministries at the Federal State level, provinces (Länder) and municipalities, and the sickness funds as self-administrated public corporations. The basis for the split of responsibilities is laid down in Art. 12 of the Federal Constitution Act[6] stating that the Federal State is only responsible for enacting basic principles and laws, whereas the legislation on implementation and the execution and enforcement thereof is the responsibility of the provinces.

[4] The Austrian e-card serves as a health insurance card for the insured population which contains administrative data on name, sex, insurance status and user group identification of the cardholder. An electronic online information system delivers accurate online information for health care providers and supports administrative processes between insured people, employers, doctors and hospitals as well as sickness funds. The e-card system was mainly introduced in the outpatient sector but is now gradually rolled out to the inpatient sector. (www.chipkarte.at)

[5] Federal Hospitals Act [Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

[6] Art. 12 of the Federal Constitution Act [Bundes-Verfassungsgesetz BGBl. No. 1/1930 i.d.F. BGBl. I No. 100/2003]

Due to the complex split of responsibilities, the variety of payers and the mixture of means of financing (social insurance contributions and tax revenues), a significant amount of coordination and arrangements among the various decision making bodies and financing institutions is required. Agreements are one of the instruments used for this purpose. In accordance with Art. 15a of the Federal Constitution Act[7] the Federal State and several or all provinces mutually undertake to ensure health care provision within the framework of their responsibilities.

Within the inpatient sector, the Austrian Federal Ministry of Health mainly uses health care planning as an instrument of controlling health care provisions and services. It is supported by Gesundheit Österreich GmbH / Österreichisches Bundesinstitut für Gesundheitswesen (GÖG/ÖBIG) in fulfilling this task. Sanitary supervision of hospitals also lies within the responsibility of the Federal Government. The Federal Hospitals Act[8] also defines quality criteria for hospitals.

Since 2006, the Austrian Health Care Structural Plan (Österreichischer Strukturplan Gesundheit, ÖSG) has regulated the geographic locations and specialisation structures of the out- and inpatient health care sector as well as acute and long term care and rehabilitation including the establishment of upper limits for total bed numbers in hospitals and provinces.

Relevant regulations[9] in the inpatient sector are:

- Agreement according to the Federal Constitution Article 15a on the organisation and financing of the health care system 2008-2013;
- Austrian Federal Hospitals Act (Krankenanstalten- und Kuranstaltengesetz, KAKuG) and nine provincial Acts (Landesgesetze);
- The Austrian Social Insurance Law (Allgemeines Sozialversicherungsgesetz, ASVG): In the area of inpatient care provision the sickness funds make payments on the basis of agreements between the provinces and the Federal Government. These are annually adjusted according to the extent of the increase in contributions revenue. Furthermore the ASVG regulates the reimbursement of pharmaceuticals mainly in the outpatient sector;
- The Federal Health Care Documentation Act (Bundesgesetz über die Dokumentation im Gesundheitswesen);

[7] Art. 15a of the Federal Constitution Act [Bundes-Verfassungsgesetz BGBl. No. 1/1930 i.d.F. BGBl. I No. 100/2003]

[8] Federal Hospitals Act [Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

[9] cf. section 8.1 for details to the laws and regulations mentioned

- Regulation on the documentation of diagnoses and services in the inpatient sector (Diagnosen- und Leistungsdokumentationsverordnung);
- Regulation on cost accounting for hospitals funded by provincial health funds (Kostenrechnungsverordnung für landesfondsfinanzierte Krankenanstalten).

The legislation and execution of pharmacy and pharmaceutical services are in the hands of the Federal State:

- Medicines Act (Arzneimittelgesetz, AMG) sets the legal framework for the production, authorisation and distribution of pharmaceuticals;
- The classification of pharmaceuticals into prescription-only or non-prescription pharmaceuticals is regulated in the Prescription Act (Rezeptpflichtgesetz);
- The Pharmacy Act (Apothekengesetz) regulates the competition among pharmacies and comprises provisions for the licensing of community and hospital pharmacies;
- The Price Act (Preisgesetz) builds the overall legal framework for pricing of reimbursable pharmaceuticals in the outpatient sector;
- Regulation on the Operation of Pharmacies (Apothekenbetriebsordnung 2005) which regulates among other things the organisation and management of hospital pharmacies;
- Regulation on the Operation of Pharmaceuticals (Arzneimittelbetriebsordnung 2009) which regulates the production of pharmaceuticals (with special arrangements in case of production which exceeds the own requirements).

In case the hospital owner wants to get funds out of the Article 15a Agreement, the establishment of the hospital needs to be in accordance with the provincial hospital plan. [10]

Classification of Austrian hospitals

The classification according to the dimensions mentioned in section 1.1 is shown in Table 1.1. Each of the dimensions characterises the structure, organisation and processes within a hospital or specific hospital associations.

Within the Austrian classification it is possible to identify the subgroups defined by the OECD (general hospitals, mental health and substance abuse hospitals and other). A small number of hospitals has specialised departments for mental health and substance abuse, which can be identified within the portfolio of a hospital. But they are mainly considered as general hospitals as they do not have their main focus on the treatment of mental health patients. These hospitals also often have an increased average length of stay due to the mental health patients.

[10] Art. 3 of the Federal Hospitals Act [§3 Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

Table 1.1: Austria – Classification of hospitals

Dimension: Type of hospital[11]
- **General hospitals** for all patients without distinction as to sex, age or type of medical care provided. This group includes all hospitals for public benefit providing general care;
- **Special hospitals** for the examination and treatment of patients with particular diseases or patients in particular age groups, or for other special purposes (e.g. injury, etc.);
- **Hospitals for convalescent patients** in need of medical care and special nursing care;
- **Hospitals for chronically ill patients** in need of medical care and special nursing care;
- **Maternity clinics**;
- **Sanatoria:** hospitals specially equipped to provide higher standards of board and accommodation. Sanatoria provide general (acute) care or specialised acute or non-acute care (specialised sanatoria sometimes call themselves "Sonderkrankenanstalt" (special hospital));
- **Independent outpatient health clinics** ("Ambulatorien" such as X-ray clinics, dental care centres and similar facilities): organisationally independent facilities for the examination or treatment of patients who do not require inpatient care.[12]
Dimension: Type of care
- **Acute care hospitals** are publicly funded hospitals and other hospitals with an average length of stay of 18 days or less;
- **Non-acute care** is provided by all other hospitals;
Dimension: Legal status
- **Public law status:** A hospital may be granted public law status if it is non-profit-making and if it meets certain requirements mentioned in the Federal Hospitals Act.
- Public benefit: A hospital is classified as being for public benefit if it is operated for non-profit. Furthermore the hospital admits any patient requiring admission if it is equipped to provide the appropriate treatment. Hospitals for public benefit do not necessarily have public law status.
Dimension: Ownership
Political administrative units: - Federal; - Provincial; - Municipal;
Sickness funds etc.: - Sickness funds and (regional) social and welfare associations; - Accident and pension insurance institutions;
Private owners: - Religious orders and congregations; - Private individuals and societies; - Associations / foundations;

[11] Art. 2 of the Federal Hospitals Act [§2 Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

[12] The independent outpatient clinics are not covered by this report.

Dimension: Financing and funding
Provincial health funds
Private Hospital Fund (PRIKRAF)
Other, e.g. Sickness Funds
Dimension: Size of the hospital
Measured by the number of systematic[13] beds

Source: BMGFJ 2008a, data gathering by GÖG/ÖBIG 2009

It is also worth mentioning that the difference between public and private hospitals can be answered with reference either to the legal status of a hospital (public law status) or to the responsible body involved. Within this framework, hospitals with public law status in private ownership exist as well as hospitals without public law status, owned and/or run by provincial or municipal hospital companies or sickness funds (cf. Table 1.2).

Table 1.2: Austria – Hospitals according to public law status and public / private ownership

	Public ownership / responsibility[1]	**Private ownership / responsibility[2]**	**Total**
Hospitals **with public law status**	106	21	**127**
Hospitals **without public law status**	52	87	**139**
Total	**158**	**108**	**266**

[1] Federal Government, provincial and municipal hospital companies, sickness funds

[2] Religious orders and congregations, private individuals and societies, associations and foundations

Source: BMG 2009a; data gathering by GÖG/ÖBIG 2009 as of 31 December 2008

More than 70% of the hospital beds are in hospitals with public law status.

The inpatient medical care of the Austrian population is provided by 266 hospitals with 63,790 available beds (as of 31 December 2008). Table 1.3 shows Austrian hospital statistics.

[13] No. of hospitals beds which are subject to authorisation by respective departments at the provincial governments (Sanitätsbehörde). (www.statistik.at)

Table 1.3: Austria – Key data on inpatient care, 2000 and 2004–2008

Inpatient care	2000	2004	2005	2006	2007	2008
No. of hospitals[1]	268	263	264	264	270	266
Classified according to ownership						
- thereof public hospitals[2]	165	162	163	164	166	162
- thereof private hospitals[3]	103	101	101	100	104	104
- thereof other hospitals	n.app.	n.app.	n.app.	n.app.	n.app.	n.app.
Classified according to subtypes[1]						
- thereof general hospitals	102	108	106	103	103	n.a.
- thereof mental health and substance abuse hospitals	16	19	18	18	17	n.a.
- thereof specialty (other than mental health and substance abuse) hospitals	150	136	140	143	150	n.a.
No. of acute care beds[4]	n.a.	54,721	54,778	54,338	54,566	n.a.
thereof in the public sector	n.a.	51,909	51,999	51,618	51,820	n.a.
thereof in the private sector	n.a.	2,812	2,779	2,720	2,746	n.a.
Average length of stay in hospitals[5]	6.31	5.87	5.80	5.71	5.64	n.a.
No. of hospital pharmacies	49	49	49	49	46	46
thereof no. of hospital pharmacies that serve outpatients	5	5	5	5	5	5

n.app. = not applicable, n.a. = not available, no. = number

Note: Data are indicated as of 31 December

1 According to OECD definition and its subtypes

2 Hospitals with public law status and non-profit hospitals without public law status

3 Private hospitals have private owners, are for-profit and do not have public law status

4 Systematic beds of acute care hospitals (publicly funded hospitals, accident hospitals, sanatoria)

5 Inpatient stays between 1 and 28 days (excluding day cases and long-term stays)

Source: BMGFJ 2008a, BMG 2009a, BMG 2009b, Statistics Austria 2002, 2006, 2007, 2008, ÖAK 2008, 2009; data gathering by GÖG/ÖBIG 2009

By December 2008 266 hospitals were in charge of the inpatient care of the Austrian population – 4 fewer hospitals in comparison to the previous year. 38% of all hospitals were general hospitals (2007), which are predominantly operated by the provinces. Of the total number of 66,236 systematic beds in 2007, 16,376 (25%) were established in departments of internal medicine, 7,836 (12%) in departments of general surgery, 5,240 (8%) in departments of mental health, 4,032 (6%) in departments of accident surgery and 4,212 (6%) in departments of neurology.

Since the beginning of the 1980's a descending trend in the number of hospital beds can be observed.[14] Furthermore, the average length of stay is on the decline since many years.

The Austrian inpatient sector is characterised by a large number of small hospitals, which often cooperate at different levels and in different ways. They are organised within hospital ownership organisations, whereas the management of public hospitals has been largely privatised on a formal basis. In most cases, the province is the majority owner. The hospital owner organisations or hospital holding companies are organised in different ways. Some private non-profit making or other private hospital owners operate on a nationwide basis. More than 90% of the private hospitals are small hospitals with less than 200 beds. This is also shown by the fact that more than 40% of all hospitals in Austria are private hospitals, but that they only provide 16.4% of all systematic beds.

In the year 2006 2,538,544 hospital admissions were recorded in Austrian acute care hospitals. The number of hospital admissions shows an increase since many years. In comparison to the previous year hospital admissions have risen by 2.6%.[15]

1,233 community pharmacies and 46 hospital pharmacies exist in Austria (as of 31 December 2008) of which 5 also operate as community pharmacies. The number of hospital pharmacies remained rather stable during the years. Moreover there are 962 dispensing doctors (as of 31 December 2007).

Nevertheless it should be noted that performance data of the Austrian inpatient sector have some shortcomings in international comparability (e.g. hospital outpatient department cases are attributed to and documented as part of inpatient services for billing reasons; one-day care for inpatient repeat and follow-up treatments (e.g. as with chemotherapy) always require re-admission and discharge and thus must be documented as "new" cases, which raises the number of "inpatients" in the statistics etc.). Furthermore the present method of inpatient financing (e.g. hospital outpatient departments are not adequately integrated into the system) seems to provide a considerable incentive for hospitals to admit as many patients as possible (and these as often as possible). Additionally a "special class regulation" (form of private health insurance which qualifies patients for a higher comfort in hospitals) creates a further incentive for hospitals to keep bed capacities high. The increase in productivity in the inpatient sector in Austria is to a large extent achieved by performance-driven incentives and finally creates "avoidable" hospital stays.

Pharmaceuticals in the inpatient sector

On average around 14,000 pharmaceuticals are authorised for the Austrian market. Almost 95% are authorised for human use. It is estimated that around 20% of the pharmaceuticals are only used in the hospital setting (cf. Table 1.4). Hospital-only-medicines are not explicitly declared in the list of authorised pharmaceuticals. The pharmaceuticals used in hospitals can be found on the individual hospital pharmaceutical formularies (cf. section 3.2).

[14] Statistics Austria 2008

[15] Statistics Austria 2008

Table 1.4: Austria – Pharmaceuticals, 2000 and 2005–2009

Number of pharmaceuticals	2000	2005	2006	2007	2008	2009
Authorised pharmaceuticals in total[1]	12,394	14,347	15,330	15,644	13,244[2]	n.a.
- thereof hospital-only pharmaceuticals	~ 20%					

n.a. = not available

Note: In contrast to other tables, in Table 1.4 data are asked for as of 1 January, as this refers to administrative data.

[1] counted including different pharmaceutical forms and dosages, excluding different pack sizes and including homeopathic products

[2] only pharmaceuticals for human use

Source: HVB 2007, AGES Pharmed 2007, PHARMIG 2005, 2006, 2008; data gathering by GÖG/ÖBIG 2009

Provision of pharmaceuticals in hospitals

Within the Austrian inpatient sector three forms of pharmaceutical provision can be distinguished:

1. Hospital pharmacy for inpatient services only

   There were 266 hospitals and 46 hospital pharmacies in Austria at the end of 2008. According to the Federal Hospital Act[16] all priority hospitals (Schwerpunktkrankenanstalten) are supposed to have a hospital pharmacy. Currently only 17% of hospitals have their own pharmacy. The purchase and supply of pharmaceutical and diagnostic products and medical devices, the preparation of specific pharmaceuticals and the pharmaceutical support of medical therapy and nursing ("Patient-oriented pharmacy") are the main services offered by hospital pharmacists (cf. section 5.1). The custom made production of pharmaceuticals is of higher importance in the inpatient sector than in the outpatient sector in Austria. Hospital pharmacies produce pharmaceuticals on a small scale (e.g. preparing prescriptions) and in larger batches. Hospital pharmacies mostly obtain the pharmaceuticals directly from pharmaceutical companies. Wholesalers and parallel traders only play a minor role in the inpatient sector (cf. section 2.1.1).

2. Hospital pharmacy for inpatient and outpatient services

   Five of the hospital pharmacies operate parallel a community pharmacy by virtue of holding long established rights and also serve the outpatient sector.

[16] Federal Hospitals Act [Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

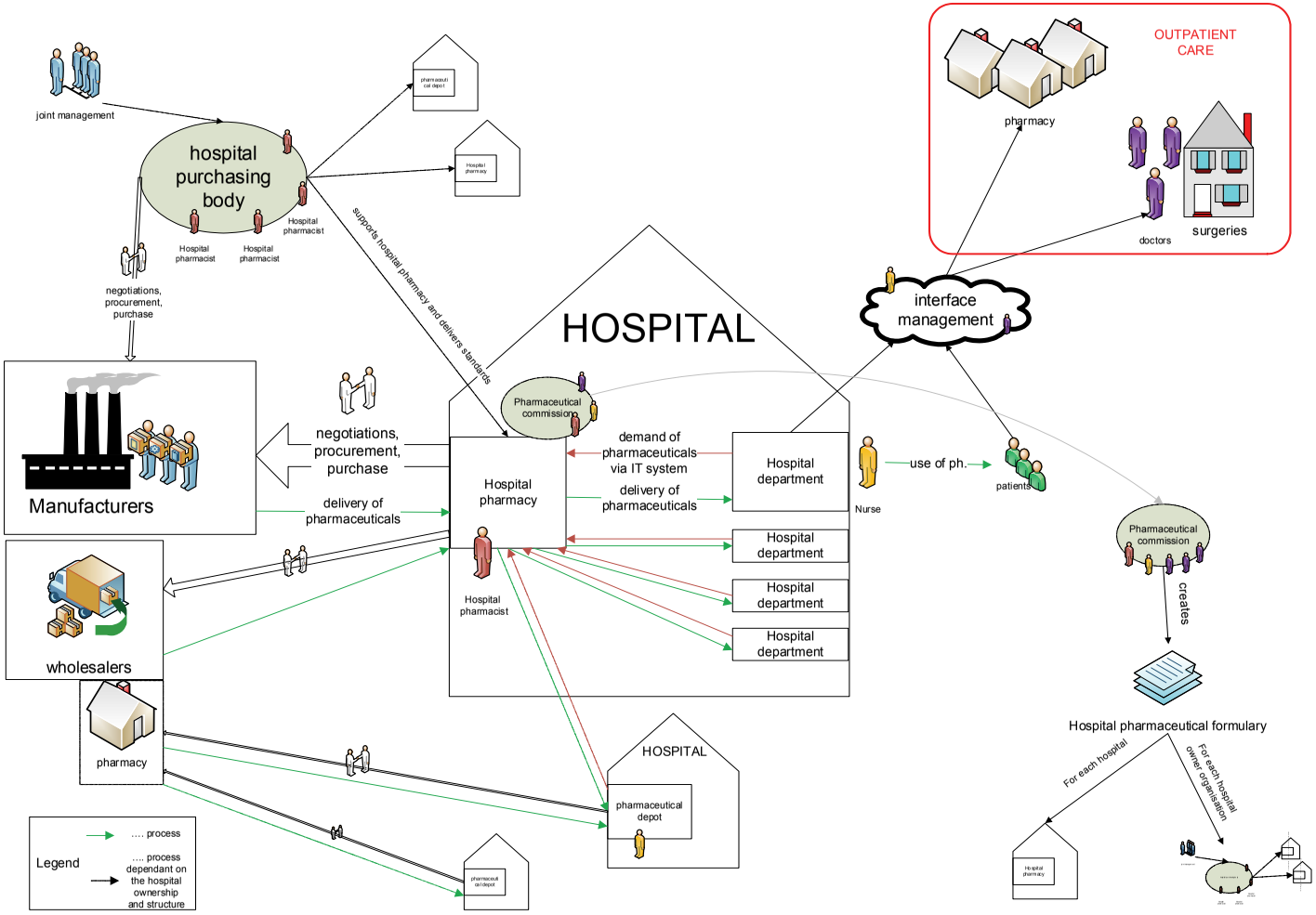
3. Pharmaceutical depots (which are served by hospital pharmacies or other community pharmacies)

Small hospitals in Austria often only dispose of a pharmaceutical depot. Pharmaceutical depots in public hospitals are only allowed to purchase the required products from another licensed pharmacy in the EEA.[17] The production of pharmaceuticals is prohibited in pharmaceutical depots. Often only qualified nursing staff is in charge of such facilities. According to law they have to be consulted and supervised by a licensed pharmacist of a nearby public pharmacy or a hospital pharmacy probably within the same hospital owner organisation. Pharmaceutical depots are often served by hospital pharmacies of the same owner organisation. If this is not possible, pharmaceutical depots often collaborate with wholesalers which dispose of an affiliated public pharmacy. Private hospitals are not allowed to run a hospital pharmacy; in most cases they have established a pharmaceutical depot.

The flow chart in Figure 1.1 schematically shows the provision of pharmaceuticals in Austrian hospitals. A detailed description of the procedures displayed can be found in the following sections of this report.

[17] Art. 20 Sec. 3 of the Federal Hospitals Act [§20 (3) Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

Figure 1.1: Austria – Schematic flow chart of pharmaceutical provision in Austrian hospitals, 2009



Source: GÖG/ÖBIG 2009

1.3 Funding

The Austrian hospitals are financed through a variety of stakeholders. In 2007 the total health expenditure in hospitals was € 10,949 Mio. The inpatient sector was financed by sickness funds with 46% and by the Federal State, provincial and local governments with 44%. The remaining 10% were financed privately (private insurance institutions, private households).[18]

Until the end of 1996 financing of hospitals was carried out on the basis of a fixed daily fee.

Since January 1997 medical care in hospitals has been financed on the basis of a fee-for service and diagnosis related group (DRG) system. Each patient is one case, which is defined with reference to illness, therapy and the age of the patient (in the case of certain illnesses). The financing is based on services actually rendered to the patients.

Within the Austrian inpatient sector three main types of funding that mainly depend on the ownership of the hospital may be distinguished:

- **DRG based funding (Leistungsorientierte Krankenanstaltenfinanzierung, LKF) by provincial health funds** (Landesgesundheitsfonds) applies to hospitals with public law status and private general hospitals for public benefit (running on a non-profit basis). The provincial health funds get funds from the Federal Government, the provinces, local authorities and the social insurance system. The funds generated from the different bodies are then split according to defined portions to the nine provincial health funds which transfer the money to eligible hospitals. Of 266 hospitals in Austria 131 (49%) so-called "Fund hospitals" are eligible to receive public funds. The LKF system consists of a core component of nationally uniform diagnosis related case groups (LDFs) and a fund control area which takes the special characteristics of hospitals into account and differs according to the province in question.
- **DRG based funding by the private hospitals fund** (Privatkrankenanstalten-Finanzierungsfonds, PRIKRAF) applies to private hospitals that run for profit. This body receives resources of the social insurance system to pay for services carried out in these hospitals. Patients contribute to the reimbursement of services rendered in private hospitals by private health insurance fees.
- **Non DRG based funding from other sources** applies to various specialised care institutions, especially rehabilitation centres and long term care institutions. Some of those hospitals are funded by sickness funds.

In Austria the financing of the inpatient and the outpatient sector is separated which might be the reason for some responsibility and interface management problems (cf. section 6). Although several initiatives have been taken to bridge the gap, the linkage of the existing dual system is not considered as functioning very well.

[18] www.statistik.at (2006)

Health and pharmaceutical expenditure in hospitals

In 2007, a total of € 27,453 Mio. was spent on health (cf.

Table 1.5). During the period from 1990 to 2007, health expenditure increased steadily from € 11,635 Mio. to € 27,453 Mio. which corresponds to an increase of 142% (whereas the Gross Domestic Product rose by 98% between 1990 and 2007).

Table 1.5: Austria – Health and pharmaceutical expenditure, 2000 and 2004–2008

Expenditure (in million €)	2000	2004	2005	2006	2007	2008
Total health expenditure (THE)	20,642	24,230	25,340	26,329	27,453	n.a.
- thereof THE public	15,860	18,341	19,294	19,971	20,977	n.a.
- thereof THE private	4,782	5,889	6,046	6,358	6,476	n.a.
HE in hospitals (HOSHE)[1]	8,114	9,574	10,034	10,507	10,949	n.a.
- thereof HOSHE public	6,811	8,044	8,458	8,899	9,272	n.a.
- thereof HOSHE private	1,303	1,530	1,576	1,608	1,677	n.a.
Total pharmaceutical expenditure (TPE) [2]	3,288	4,114	4,205	4,482	4,691	n.a.
- thereof TPE public	2,091	2,570	2,597	2,726	2,924	n.a.
- thereof TPE private	1,197	1,544	1,608	1,756	1,767	n.a.
Pharmaceutical expenditure in hospitals (HOSPE)[3]	n.a.	n.a.	n.a.	n.a.	1,015	n.a.
- thereof HOSPE public[4]	n.a.	n.a.	n.a.	n.a.	0,776	n.a.
- thereof HOSPE private[3]	n.a.	n.a.	n.a.	n.a.	0,239	n.a.

HOSHE = health expenditure in hospitals, HOSPE = pharmaceutical expenditure in hospitals, n.a = not available, NCU = National Currency Unit, PE = Pharmaceutical Expenditure, THE = Total Health Expenditure, TPE = Total Pharmaceutical Expenditure

Note: Data are indicated as of 31 December.

1 including inpatient long term nursing care in nursing facilities but excluding investments made in the inpatient sector

2 pharmaceutical products, medical durables and non durables

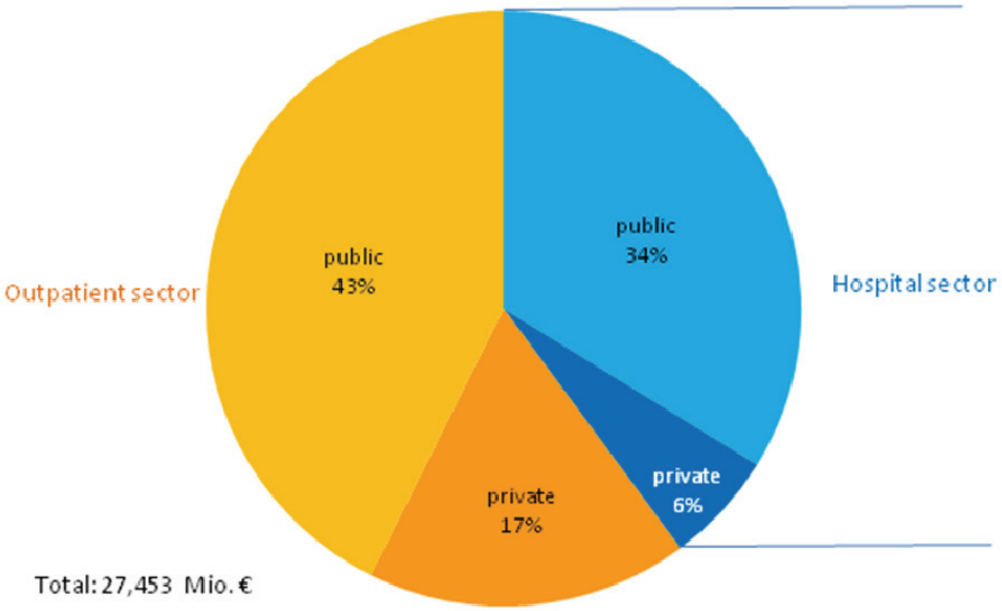
3 estimation (total pharmaceutical expenditure of hospitals funded by the provincial health funds and extrapolation of the data for privately funded hospitals) includes pharmaceuticals, blood, reagents, vaccine and nutriments

4 only hospitals funded by the provincial health funds

Source: Statistics Austria 2009, BMGFJ 2008b

Almost 40% of total health expenditure was spent on the inpatient sector. Between 1990 and 2007 public expenditure for inpatient care annually increased on average by 5.8% and amounted to € 9,272 Mio. in 2007. Expenditure on pharmaceuticals (including medical durables and non durables) accounts to 17% of all expenditure on health. Public current expenditure on pharmaceuticals increased between 1990 and 2007 on average annually by 8.3%.[19] The reasons for this large increase are demographic developments and medical progress. Following the latest data released by Statistics Austria the total pharmaceutical expenditure amounted to € 4,691 Mio. in 2007.

Figure 1.2: Austria – Total health expenditure, 2007

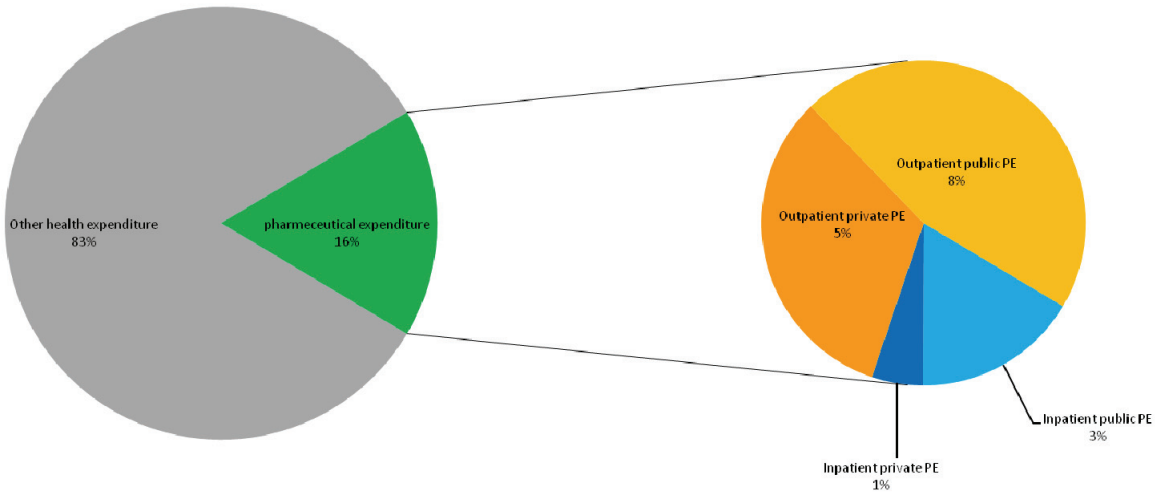


Source: Statistics Austria 2009, BMGFJ 2008b

Pharmaceuticals are an essential component within hospitals but compared to their importance, they surprisingly play a minor role within the management of hospitals. This is mainly due to the fact that they only represent less than 10% of the total expenditure within a hospital. The cost argument is often used to state that hospital pharmaceutical management is not a priority issue.

[19] www.statistik.at

Figure 1.3: Austria – Pharmaceutical expenditure in % of the total health expenditure, 2007



Total health expenditure: 27,453 Mio. €
ex ... expenditure, PE ... pharmaceutical expenditure

Source: Statistics Austria 2009, BMGFJ 2008b

Out-of pocket payments by inpatients

Hospitalised patients in standard class accommodation pay a fee of around € 8 per day for a maximum of 28 days per year.[20] In the course of the Health Reform 2005, the option of increasing this fee to a maximum of € 10 was delegated to the provinces. Patients do not have to pay additional fees for hospital pharmaceuticals as these are reimbursed by the lumps sums received out of the Austrian DRG system. However, due to the large increase of pharmaceutical expenditure in some segments (e.g. oncology) there is a growing demand to fund such expenditure by extra means.

[20] According to Art. 27a of the Federal Hospital Act [§27a Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

2 Pricing

2.1 Organisation

2.1.1 Framework

In Austria the purchasing of pharmaceuticals and the setting of the pharmaceutical prices in the inpatient sector is decentrally organised, depending on the hospital owner organisation. According to the Federal Hospitals Act[21], pharmaceuticals dispensed in hospitals have to be included in a hospital pharmaceutical formulary which has to be authorised by as special pharmaceutical commission (cf. section 3.2). Each hospital or each hospital owner organisation disposes of its own hospital pharmaceutical formulary.

It is reported by the hospital experts, that manufacturers often grant rebates in cash of up to 99% to the hospitals, and thereby influence the composition of the hospitals' pharmaceutical lists and also (indirectly) the prescribing behaviour of doctors in the outpatient sector for patients who have been released from hospital.

Hospital pharmaceutical purchasing bodies

The different hospital owners or hospital ownership associations very often unite their hospitals in purchasing groups and perform the price negotiations or public procurement procedures on behalf of their hospitals. These harmonisation trends emerged in the 1990's. These hospital purchasing bodies only operate within a specific province or within a specific owner organisation which runs hospitals in different provinces.

In Austrian hospitals the different purchasing policies are organised by

- designated purchasing departments (either specialised on pharmaceuticals or on all medical devices needed);
- chief hospital pharmacist (who is in charge of the hospital pharmacy or pharmaceutical depot of the biggest hospital within the owner organisation) or
- several hospital pharmacists in the same owner organisation (e.g. lead buyer system in the province of Lower Austria taking into account a provincial pharmaceutical strategy).

Due to the different size and number of the appending hospitals the owners dispose of diverse levels of bargaining power within the negotiation or procurement processes which has consequences on the price building.

[21] Art. 19a of the Federal Hospital Act [§19a Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

There is no legal framework in place which regulates the setting of the prices of pharmaceuticals in hospitals. In general free pricing at the manufacturer level is applied. The price of a pharmaceutical is the result of a negotiation or procurement procedure between the hospital pharmaceutical purchasing body and the manufacturer / distributing actor. In general hospital pharmaceutical purchasing bodies (purchasing departments or hospital pharmacists) are directly in contact with pharmaceutical companies. Wholesalers only play a minor role in the inpatient sector.

Within one of the biggest hospital owner organisation, the Krankenanstaltenverbund (KAV) in Vienna, a special purchasing committee (Apothekeneinkaufsgremium) is established at the general management level and composed of the executive of the staff unit on medical economics and pharmacy affairs and the chief hospitals pharmacists. The work focuses on the purchase of new innovative pharmaceuticals and very cost intensive pharmaceuticals on a general basis. At the same time the hospital pharmacies purchase ordinary pharmaceuticals.

As already mentioned in section 1.2 pharmaceutical depots in public hospitals are only allowed to purchase the required pharmaceuticals from another licensed pharmacy in the EEA. Pharmaceutical depots are generally supplied with pharmaceuticals by hospital pharmacies of the same hospital owner. Hospital owner organisations which do not run their own hospital pharmacy (e.g. KRAGES in the province of Burgenland) cooperate with community pharmacies (with an affiliated wholesaler) or hospital pharmacies of other hospital owners.

A major prerequisite of success of the hospital purchasing bodies is the good cooperation of the involved persons (chief pharmacist, medical director of the hospital and main doctor).

Decision making in hospitals

Internal management in hospitals is usually carried out by a committee (with equal voting rights of the members). It consists of representatives of doctors, nurses and the management (Kollegiale Führung).

Pharmaceuticals are essential in hospitals. From a formal point of view, pharmaceuticals fall within the agenda of the medical director of a hospital (Ärztlicher Direktor) or hospital owner organisation. He or she is possibly consulted by the pharmaceutical purchasing body (e.g. the chief pharmacist) and the executive of the pharmaceutical commission who is in many cases also the chief pharmacist. Nevertheless, decisions on pharmaceutical prices are usually not taken by the high level management of the hospital owners or the hospitals. In practice the price negotiations are led by the pharmaceutical purchasing body. The purchasing bodies are asked to stick within their assigned budget. The chief hospital pharmacist has a key role in the purchase process. Pharmaceutical purchasing bodies always encompass the chief hospital pharmacist and other leaders of hospital pharmacies.

Different criteria are taken into account when negotiating and choosing the provider:

- Prices of similar, substitute or alternative products,
- Medical and therapeutic benefits (on the basis of scientific and evidence based criteria),
- Need for the pharmaceutical within the hospital and
- Economic considerations (e.g. granting of discounts, supply management, etc.).

The decision criteria are compiled and evaluated individually for each pharmaceutical. In many cases the respective price offered by the pharmaceutical company is the decisive criterion. The decision on the assignment of a certain company is finally taken by the hospital purchasing body in cooperation with the responsible medical bodies.

In most cases negotiations between the pharmaceutical purchasing body and the pharmaceutical companies occur. Procurement procedures are only applied under certain conditions and are rather rare.

Each hospital assigns a certain budget for pharmaceuticals on a yearly basis. Within this budget possible developments of the forthcoming year are anticipated.

To sum it up, in most Austrian hospitals central hospital pharmaceutical purchasing bodies (either the chief hospital pharmacist or designated purchasing departments) are in charge of purchasing the pharmaceuticals and controlling the pharmaceutical consumption. Mostly they are in direct contact with the manufacturers and negotiate the prices. Public procurement procedures are only launched in rare cases (e.g. comparable pharmaceuticals).

2.1.2 Hospital prices

In general hospital pharmaceutical purchasing bodies buy pharmaceuticals directly from any pharmaceutical company at the ex-factory price or a special price, which is lower than the official ex-factory price. In case of cooperation with wholesalers, an individual mark up (Fakturierungsgebühr) is added on the ex-factory price or special discounted price and is charged to the hospitals. Nevertheless the price together with the wholesaler mark up is still considered as considerably lower than the pharmacy purchase price (PPP).

Pharmaceutical depots, which do not have the possibility to get the pharmaceuticals from a hospital pharmacy of the same owner organisation, have to purchase their pharmaceuticals from community pharmacies which add a mark up of 8 to 10% or have a cooperation with a wholesaler attached to a community pharmacy.

Hospital pharmacies which serve other hospitals or pharmaceutical depots sometimes charge a service fee for the supply of pharmaceuticals. The amount of the service fee (5 to 10%) depends on the close relationship to the owner organisation or the other hospital.

In the inpatient sector in Austria there are no official price or mark up regulations are in place.

The end price of hospital pharmaceuticals is set in most cases below the manufacturer price. According to Austrian hospital experts, substantial discounts can be reached during the purchasing process due to high pharmaceutical consumption in hospitals.

Discounts

A small amount of pharmaceuticals is given free of charge to the hospitals by the pharmaceutical companies.

In this case it can be distinguished between

- Free samples of pharmaceuticals for hospital doctors (Ärztemuster);
- Cost free pharmaceuticals (Gratisware).

This is mainly the case for pharmaceuticals for cardiovascular diseases and chronic diseases. Within these specific disease groups a patient very often is attuned in hospital treatment to a specific pharmaceutical which he or she will be taking for the next 10 to 20 years. Pharmaceutical companies follow a strategic provision of cost free samples, as they hope to address the patients at this stage. Therefore they are said to provide often expensive pharmaceuticals to hospitals free of charge.

Hospital purchasing bodies accept such cost free pharmaceuticals under specific conditions such as that no other interest is violated (e.g. therapeutic objections) and without any binding agreements. Approximately 10% of the pharmaceutical products listed on a hospital pharmaceutical formulary (cf. section 3.2) are delivered free of charge. Estimations showed that these pharmaceuticals would account for 2 to 6% of the total pharmaceutical expenditure of a hospital.

Rebates in kind are also quite common in the inpatient sector.[22]

Additionally pharmaceutical companies very often grant special price conditions to hospital pharmaceutical purchasing bodies. Up to 95% of the hospital pharmaceuticals special prices can be negotiated depending on the bargaining power of the hospital pharmaceutical purchasing body. On average the special hospital prices lie approx. 30 to 35% below the prices in the outpatient sector whereas the discounts range between 0 and 99%.

Transparency of the prices

In Austria there are no legal obligations to report prices of pharmaceuticals used in hospitals. The prices are not publicly available. They are only communicated within the hospital and integrated into the individual hospital IT-system where they can be consulted and checked when monitoring the accounting and performance of hospitals.

[22] Although the granting of rebates in kind is prohibited in Austria since 2005, the Federal Ministry of Health stated within a decree in 2006, that this regulation is not valid for Austrian hospitals.

Exchange of information with other purchasing bodies

Hospital purchasing bodies only occasionally exchange information on procedures and prices on informal basis. An official exchange platform is not favoured by these bodies.

2.2 Pricing policies

Apart from the international and national public procurement regulations, which differ depending on the legal status of the hospital and the thresholds for the purchase, no other binding legal obligations for pricing policies exist.

It is the main objective of hospitals to receive the best price for the pharmaceuticals used.

2.2.1 Procurement

Public procurement procedures are regulated by the Austrian Federal Act on public tenders (Bundesvergabegesetz 2006, BVergG) and nine Provincial State Acts concerning for post investigation procedures and respective Directives of the EU (General directive: Directive 2004/18/EC, Legal protection: 2007/66/EC, Contracting authorities of the sectors 2004/17/EC, Legal protection in specific sectors 92/13/EEA).

Due to high administrative requirements, public procurement procedures are only chosen as pricing policy if the expected benefit cannot be achieved by applying alternative approaches (e.g. bilateral negotiations) and if the pharmaceutical industry demands for a procurement procedure. The procurement procedure is either launched by the pharmaceutical purchasing body or is outsourced to competent partners such as legal consultancies.

Procurement procedures are therefore only followed in exceptional cases. This approach is rather applied by the biggest hospital owner organisations (e.g. the KAV in Vienna). Examples for procured pharmaceuticals are radio contrast pharmaceuticals or medical gases.

The procedure (e.g. thresholds, publication notices, etc.) is clearly defined within the Federal Act on public tenders[23].

As selection criteria, the price is the decisive factor (e.g. around 95%), although qualitative criteria such as storage, supply conditions, availability of different dosage forms (e.g. for children) etc. are also of importance.

The result of the procurement procedure and awarding of the contract is made public to the participants in the procurement procedure.

[23] Federal Act on public tenders [Bundesvergabegesetz BGBl. I No. 17/2006 i.d.F. BGBl. I No. 86/2007]

Public procurement might be disregarded as the ideal solution for the purchasing of pharmaceuticals in hospitals as:

- The purchase of pharmaceuticals is considered as more complex than procurements on other products e.g. cleaning agents as almost each pharmaceutical has to be judged differently.
- It is reported by hospital owner organisations that procurement policies sometimes do not result in the expected lower prices.
- The direct comparability of pharmaceuticals is not possible or only in a very small range except for generics and pharmaceuticals of the same active ingredient.
- Therefore the procurement text can only be written in a vague style – and this might lead to a suboptimal solution.
- High administrative efforts, limited resources at the hospital organisations and necessary legal consultation might make this pricing policy an expensive purchasing procedure.

Nevertheless a trend towards the increased use of public procurement procedures currently exists within the Austrian hospital owner organisations.

2.2.2 Negotiations

Conducting direct negotiations is the most common way to purchase pharmaceuticals in the inpatient sector. Pharmaceutical companies are asked to present offers and compete with each other to get the assignment. In case of pharmaceuticals with identical active ingredients in many cases pragmatically the best offer is selected. If the direct comparison of the pharmaceuticals is not feasible, further decision criteria are: effectiveness, application method of the pharmaceutical, medical and therapeutic criteria, etc.

If there are no alternative pharmaceuticals or alternative pharmaceutical companies – as this is very often the case with oncological pharmaceuticals –, the hospital pharmaceutical purchasing body tries to achieve a special discounted price for these pharmaceuticals.

In general linked offers (“if you buy pharmaceutical A, we will give you pharmaceutical B free of charge”) are said to be not accepted by hospital purchasing bodies as internal transparency in the pricing policy is preferred.

As the pharmaceutical market is a very dynamic one, hospital pharmacists observe the market constantly. Some pharmaceutical purchasing bodies conduct price updates on a regular basis (e.g. once a year). As soon as the market position of a pharmaceutical changes, the companies are asked to present new offers.

Each hospital pharmaceutical purchasing body disposes of a different level of bargaining power towards the pharmaceutical companies. This is mainly due to the different amount of pharmaceuticals needed and the differing services offered. Therefore the prices achieved cannot be directly compared as different frameworks and conditions are considered at the time of the price offer.

Negotiations are considered as an efficient solution as this pricing policy allows for the required flexibility to react quickly to changed conditions. Public procurement procedures might lead to unclear and complex situations and requires legal consulting, which might be quite cost-intensive and time-consuming.

3 Reimbursement

3.1 National hospital reimbursement procedure

In Austria hospital services including pharmaceuticals are reimbursed via the diagnosis orientated reimbursement system[24] – the Austrian DRG model (Leistungsorientierte Krankenanstaltenfinanzierung, LKF) – using lump sums for each case groups, which are based on principal diagnoses and (single) medical service items (cf. section 1.3).

The core of the Austrian DRG model is that the disease and the treatment applied determine the reimbursement of the hospital services. Other characteristics (e.g. the age of the patient with certain diseases or structural quality criteria, etc.) also contribute to the calculation of the reimbursement scheme (cf. section 1.3).

The system was developed on the basis of 20 reference hospitals which provided data on costs and it was refined by an interdisciplinary team (doctors, statisticians, economists etc.) in 1996. Standardised treatments and quality criteria also contribute to the valuation and calculation of the diagnosis-related-groups (DRG). The DRG system gets annually evaluated and adjusted. The Austrian DRG system is not considered as a very flexible system, sometimes lagging behind the developments on the pharmaceutical market. Changes might be implemented belatedly.

The information on the current valid regulations and procedures regarding the Austrian DRG model can be found on the homepage of the Austrian Ministry of Health.[25]

[24] Based on the Agreement according to the Federal Constitution Article 15a on the organisation and financing of the health care system 2008-2013; Austrian Social Insurance Law (ASVG); Federal Hospitals Act (KAKuG); Nine provinces Hospitals Acts (Landeskrankenanstalten- und Kuranstaltengesetze); Act on the financing of private hospitals (Privatkrankenanstalten-Finanzierungsfondsgesetz - PRIKRAF-G)

[25] http://www.bmgfj.gv.at/cms/site/thema.html?channel=CH0719 (only in German)

Pharmaceuticals are integrated in the lump sums which can be generated for the procedure- and diagnosis-orientated case groups in hospitals. An average consumption of pharmaceuticals per diagnosis was considered when calculating the lump sums. Patients do not have to provide extra payments as the expenditure of pharmaceuticals is covered by the DRG lump sums.

According to the Austrian Law[26], the basis for the eligibility of a pharmaceutical to be reimbursed in the inpatient sector is the hospital pharmaceutical formulary (cf. section 3.2). Each hospital, hospital association or hospital owner implements its own hospital pharmaceutical formulary. No extra national reimbursement list of pharmaceuticals used in hospitals exists. The decision making body is the pharmaceutical commission (Arzneimittelkommission; cf. section 3.2).

Oncological pharmaceuticals present the only exception of the DRG lump sum system, as these pharmaceuticals are recorded as own diagnosis-orientated case groups. Approximately 50 defined single medical services (Medizinische Einzelleistungen, MEL) exist within the system where explicitly the dispensing of a specific oncological pharmaceutical is reimbursed to the hospital owner.

In at least two provinces in Austria (Styria, Carinthia) a separate financing approach for oncological pharmaceuticals exists. In these provinces the main public hospital owner organisations have concluded agreements with the regional sickness funds (StGKK, KGKK) stating that the expenditure of oncological pharmaceuticals will be covered by the sickness fund even if they are dispensed in the inpatient sector.

To sum it up, pharmaceuticals are covered by the lump sums calculated for the reimbursement according to the Austrian DRG model.

3.2 Hospital pharmaceutical formularies

Pharmaceutical commission

The organisation and use of hospital pharmaceutical formularies and the pharmaceutical commission is regulated by Austrian law.[27]

[26] Art. 19a of the Federal Hospital Act [§19a Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

[27] Art. 19a of the Federal Hospital Act [§19a Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

Austrian hospitals are obliged to establish a pharmaceutical commission. Joint pharmaceutical commissions for hospital associations or all hospitals of one owner organisation are common. Nevertheless some hospital owner organisations prefer the decentralised organisation of the pharmaceutical commission per hospital, as they expect to achieve a higher commitment of the involved persons.

The defined tasks of a pharmaceutical commission are:

- Compilation of a list of pharmaceuticals that are purchased by the hospital and can thus be used within the hospital (hospital pharmaceutical formulary);
- Updates of the hospital pharmaceutical formulary;
- Formulation of guidelines on the purchasing and handling of pharmaceuticals.

When doing this the pharmaceutical commission has to consider the following guidelines:

- For the use of pharmaceuticals in hospitals the health condition of the patient is exclusively decisive.
- The selection and use of pharmaceuticals has to be done on the basis of medical and pharmaceutical scientific evidence and recognised methods (e.g. requests for adding a pharmaceutical to the hospital pharmaceutical formulary has to be accompanied by scientific evaluation documents; IT software in the hospital often helps to document the scientific reports and recommendations)
- In the process of the setting up of the hospital pharmaceutical formulary the purpose and the services of the hospital have to be considered to guarantee the provision of the required pharmaceuticals to the patients.

For the formulation of guidelines on the purchasing and handling of pharmaceuticals, the usefulness and economic efficiency need to be taken into account:

- If therapeutically equal pharmaceuticals are available, the economically more favourable pharmaceutical has to be taken.
- In case other therapeutically equal treatment possibilities exist, which are more useful and economically more favourable, the use of pharmaceuticals should be disregarded.

The following points are regulated in the nine provinces Acts[28]:

- Members of the pharmaceutical commission (head of the hospital pharmacy, the chief doctor, the chief nurse, the administrative director and, in some cases, specialist doctors and as well a representative of the sickness funds);
- Statutes of the pharmaceutical commission (organisation and decision-making);
- Specific tasks of a pharmaceutical commission (e.g. monitoring of the pharmaceuticals, etc.).

[28] c.f. section 8.1

The chief pharmacist of a hospital organisation clearly has a leading expert role within the pharmaceutical commission. The decisions within this commission are taken on a democratic basis. The administrative directors are involved on a formal basis, also in view of the role as controllers.

Hospitals are autonomous in purchasing pharmaceuticals on the hospital formulary and they may also purchase pharmaceuticals which are not on the national reimbursement list (the Reimbursement Code) in the outpatient sector.

Only pharmaceuticals which are included in the hospital pharmaceutical formulary are reimbursed by the hospital funds. In general approximately 1,500-2,500 pharmaceuticals are included in hospital formularies.

When prescribing pharmaceuticals for the time after discharge from hospital, the economically most favourable and therapeutically equal pharmaceuticals should be selected. Furthermore the Reimbursement Code (EKO) of the Main Association of Austrian Social Security Institutions (MASSI), which is the basis for the reimbursement of pharmaceuticals in the outpatient sector and the Guidelines on Economic Prescribing of Pharmaceuticals and Medicinal Products (Richtlinien über die ökonomische Verschreibweise von Heilmitteln und Heilbehelfen, RöV[29]) should be considered, unless there are objections from the medical perspective.

Process of inclusion of a pharmaceutical in the hospital pharmaceutical formulary

In general each hospital senior chief doctor (Oberarzt) can suggest a pharmaceutical to be included in the list via an official request signed by his/her medical executive to the head of the pharmaceutical commission. The request is often accompanied by scientific documents of the pharmaceutical which should allow for supporting the decision-making.

At their regular meetings (usually on a quarterly basis) the commission then decides on the basis of different criteria if the pharmaceutical will be included in the list or not. These criteria could be:

- Therapeutic;
- Medical;
- Economic or
- Cost-effective etc.

It is mainly a decision depending on individual factors in each case, conflicts of interests may occur. In some more complex cases the proposing doctor is invited to give a personal statement at these sessions to comment on the necessity of the inclusion of the specific pharmaceuticals.

[29] www.avsv.at

The inclusion of generics is mainly dependant on the position of the chief pharmacist. No official guidelines exist regarding the use of generics in the inpatient sector.

Usually the hospital pharmaceutical formulary is updated 2–4 times a year.

Some pharmaceutical commissions implemented specific guidelines (“conflict of interest”) which clarify the reasons and motivation of requesting persons to suggest specific products. This is done in order to find out if a doctor who has received special funds to conduct research proposes this specific product. Pharmaceutical companies follow the specific interest to have their products in the formulary as the prescription behaviour of the hospital doctor has an important impact on the outpatient market.

As soon as the decision is taken to include the pharmaceutical in the hospital formulary, the executive of the pharmaceutical commission (mostly the chief hospital pharmacist) prepares information on the new pharmaceutical to be disseminated to the hospital employees (e.g. via the intranet or posters or by email).

Whether generics or parallel imported products are purchased, this is mainly a decision of the hospital pharmacist and the pharmaceutical commission.

In general the needs of the sickness funds in the outpatient sector are positively received by Austrian hospitals. Nevertheless the cooperation between the outpatient sector and the inpatient sector varies between the provinces and depends on individuals. Especially for long term therapies, pharmaceutical therapy in hospitals has consequences on the further treatment in the outpatient sector, representatives of the sickness funds try to express their view in the pharmaceutical commissions (cf. section 6).

Use of pharmaceuticals which are not on the hospital pharmaceutical formulary

In case of a required use of a pharmaceutical which is not included in the formulary, the prescribing doctor officially needs to request for it by using a standardised form. The filled in form stating the reasons and the necessity of the use of the special pharmaceutical has to be authorised by the respective responsible hospital pharmacist in consultation with leading doctors.

IT-system

Hospital pharmaceutical formularies are electronically available in each hospital’s IT systems. They are often part of an intranet system of each hospital and all hospital employees can have access.

The information on the pharmaceutical varies in many hospitals. A standardised software is often used including information on the product, the active ingredient, alternative products and also price information as well as information on the reimbursement status in the outpatient sector. Furthermore, pharmaceuticals can be tracked with the help of the IT system within a hospital. The hospital controller might exactly know how many packages of a specific pharmaceutical have been dispensed to a department. But the traceability to the patients is limited.

4 Consumption of pharmaceuticals

By law hospitals are obliged to document their services performed and to deliver the data to the provinces.[30] Usually the pharmaceutical consumption in Austria is measured in packs, only antibiotics are reported in DDD.

Table 4.1: Austria – Pharmaceutical consumption, 2000 and 2004–2008

Pharmaceutical consumption	2000	2004	2005	2006	2007	2008
Annual pharmaceutical consumption in total						
in packs (in thousands)	186,539	201,937	211,635	210,170	n.a.	n.a.
in DDD (Defined Daily Doses)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
In other measures units (e.g. unit doses)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Annual pharmaceutical consumption in hospitals						
in packs (in thousands)	20,167	22,533	22,579	23,166	n.a.	n.a.
in DDD	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
In other measures units (e.g. unit doses)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

DDD = Defined Daily Doses, n.a. = not available

Source: PHARMIG 2008

Pharmaceutical consumption has been steadily growing for years. In Austria the consumption figures are measured in delivered packs. As shown in Table 4.1, in the year 2006 210.2 Mio. pharmaceutical packs were sold, 11% were delivered to hospital pharmacies, and 89% were sold to pharmacies in the outpatient sector.

On top of the consumption lists in hospitals erythrocyte concentrates, oncological pharmaceuticals and antibiotics can be found. Table 4.2 provides a list of the top pharmaceuticals with regard to expenditure.

[30] Art. 2 of the Regulation on the documentation of diagnoses and services in the inpatient sector (§2, Diagnosen- und Leistungsdokumentationsverordnung)

Table 4.2: Austria – Top 10 pharmaceuticals by pharmaceutical expenditure and consumption, 2008

Position	Top pharmaceuticals used in hospitals, indicated by active ingredient, ranked with regard to consumption	Position	Top pharmaceuticals used in hospitals, indicated by active ingredient ranked with regard to expenditure[1]
1	n.a.	1	Erythrocyte concentrates
2	n.a.	2	Bevacicumab
3	n.a.	3	Pemetrexed
4	n.a.	4	Rituximab
5	n.a.	5	Trastuzumab
6	n.a.	6	Immunglobulin
7	n.a.	7	Thrombocyte concentrates
8	n.a.	8	Cetuximab
9	n.a.	9	Paclitaxel
10	n.a.	10	Linezolid

n.a. = not available

[1] Data refer to a ranking of the top pharmaceuticals (brand names) with regard to expenditure.

Source: Data gathered by GÖG/ÖBIG on the basis of data provided by a big hospital owner organisation

The IMS (Intercontinental Marketing Services)[31] conducts market research on the consumption of pharmaceuticals in hospitals and provides the data to the pharmaceutical companies. Hospitals which deliver data for this project do have access to consumption data of other hospitals and can benchmark their consumption with the results of other Austrian hospitals. But the data are not publicly available.

Use of pharmaceuticals

Usually pharmaceuticals are given in packs to the departments where the nursing personnel dispense the pharmaceuticals to the patients. Pilot projects on unit dose application supported by IT-systems are implemented in single hospitals or departments (e.g. Kaiser-Franz-Josef Hospital in Vienna, LKH Villach). Within these pilot projects doctors prescribe online the required pharmaceuticals and get information they need for their decision. This is aimed to increase the patient safety and pharmaceutical safety within hospital, as e.g. potential interactions with other pharmaceuticals are automatically checked by the system and a clinical pharmacologist as consultant is linked in the system. Furthermore the unit dose application on the basis of bar code scanning (at the patient's side, on the pharmaceutical package) is used within the pilot projects.

[31] http://www.imshealth.com/

5 Evaluation

5.1 Monitoring

Pharmaceuticals in hospitals are a very sensible and difficult topic, as the monitoring (steering) of pharmaceuticals may be seen as an intervention in the medical therapy. Different contexts may collide (individual freedom of therapy vs. centralisation and quality standardisation).

Standardised documentation has been implemented in the inpatient sector for many years. As a basis for performance-related reimbursement, public hospitals have to present monthly diagnoses and services reports to the provincial government and/or State Health Fund in accordance with provincial legal provisions.

By law a quality assurance commission[32] and a hygienic commission need to be implemented in hospitals. They also cover topics where the use of pharmaceuticals is discussed but under other perspectives than pricing and reimbursement. The quality assurance commission is headed by a competent person; at least a representative of the medical doctors, nurses, the medical-technical and administrative staff has to participate in the commission. The main task of the quality assurance commission is to initiate, to coordinate, to support and to foster the implementation of quality assurance measures. Furthermore the commission is entitled to consult the hospital owners and leading persons in view of necessary quality insurance measures.

Based on the regulation on cost accounting for hospitals funded by provincial health funds[33] hospitals are also urged to survey their expenditure. Based on the implementation status of the cost accounting system, it is possible for the individual hospitals to calculate the expenses per patient as well as the amount of pharmaceuticals per package (via “cost unit accounting”). Data are derived from the IT-system of the hospital. But these data stay within the management of the hospital, they are not publicly available. Only the total expenditure (per department and cost category e.g. medical products and supplies) is reported to the authorities.

On the basis of the incurred costs per patient and the incomes generated on the basis of the DRG points, the hospital management eventually decides on the service portfolio of the hospital.

[32] Art. 5b of the Federal Hospitals Act [§5b Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

[33] Regulation on cost accounting for hospitals financed via provincial health funds (Kostenrechnungsverordnung BGBl II No. 638/2003)

Additionally, hospitals are also looking for possible ways to contain costs. The pharmaceutical sector within a hospital is very often not touched because – as already mentioned – the expenditure of pharmaceuticals is insignificant in comparison to other expenditure (e.g. implants). Furthermore it can be assumed that the knowledge on the pharmaceutical system and expenditure within the inpatient sector is rather incomplete.

Monitoring of the pharmaceutical expenditure / consumption / prices

As already mentioned in section 3.2 the pharmaceutical commission can be authorised to monitor and control the expenditure of pharmaceuticals within a hospital, a hospital owner organisation or hospital associations. The realisation is mainly due to the personal commitment of the persons involved and the individual pressures for cost controlling and reduction.

In general, based on regular statistics of the consumption and expenditure the hospital pharmacy analyses on a regular basis (twice or four times a year) the incurred pharmaceutical expenditure. Responsible persons of affiliated hospitals also have to deliver reports on a regular basis. This report is then shared with the other members of the pharmaceutical commission, the Executive Board of the hospital owner organisation and other important persons involved. Noticeable differences to the funds budgeted and the actual expenditure as well as significant outliers (disproportionate expenditure for certain pharmaceuticals) are reported. Having the controlling reports in hands the pharmaceutical commission tries to determine the reasons for the expenditure growth. Depending on the reasons the commission sets appropriate steps (e.g. personal conversations with the departments / persons concerned) to curb these developments. Benchmarks like consumption data, turnover rate as well as ABC-analyses (mechanism for identifying products which will have a significant impact on overall expenditure) and hit lists are used as typical instruments.

Example: In one department of the hospital a high use of antifungal agents is reported. It is suspected that these pharmaceuticals are applied according to a “principle of indiscriminate all-round distribution”. After conversations with the leading doctor the use of the antifungal agents declines substantially.

Also a trend towards a higher cost consciousness can be observed in Austrian hospitals.

The persistence, competence and the accuracy of the chief hospital pharmacist and the medical director should be mentioned as a factor of success for cost containment. Another important factor is to have the hospital doctors on board when discussing the expenditure of pharmaceuticals to guarantee better commitment to prescription guidelines. The personal contact to the persons involved has proven to have effects on the cost containment of a hospital and on the prescription behaviour of the doctors. Hospital doctors are consulted by hospital pharmacists to potential curb over-medication (e.g. a proton pump inhibitor where experts indicate that 80% of the prescriptions are unnecessary). Formal instructions on the prescription of a certain pharmaceutical could help but only up to the point where the commitment of the involved persons is assured.

Therefore trainings on critical issues and pharmaceuticals for the medical personnel is organised. Furthermore representatives of the sickness funds organise presentations on the national outpatient reimbursement codes to bring this knowledge and cost awareness to hospital doctors. It is a constant effort and project to train the medical staff in the key items of the pharmaceutical system (e.g. market mechanisms and approaches of pharmaceutical companies). The strong involvement of the prescribing doctors in decisions has proven to be successful in reaching the appropriate commitment of this medical profession in hospitals.

Important topics concerning the monitoring of pharmaceuticals in hospitals

Rational use of pharmaceuticals in hospitals

In the outpatient sector Guidelines on Economic Prescription of Pharmaceuticals exist. Hospital doctors are instructed by law[34] to consider these guidelines as well in the inpatient sector. But in fact no sanctions for non-compliance exist and therefore these guidelines only tend to have a marginal effect on the prescription of pharmaceuticals in hospitals. Doctors decide on a single case basis, if a medical therapy is justified by presenting scientific and evidence-based arguments.

Role of hospital pharmacists

The tasks of hospital pharmacists can be divided into three broad categories:

- Supply of pharmaceuticals;
- Production of pharmaceuticals (sterile and non-sterile);
- Pharmaceutical services (safe and efficient use of pharmaceuticals, preparation and information on pharmaceuticals, teaching and contribution to education programs of medical staff, etc.).

Basically the hospital pharmacist has to promote safe and efficient use of pharmaceuticals in hospitals. The role of the hospital pharmacist is understood on the basis of a partnership with other medical professionals and also involves face-to-face contacts with patients from time to time. Hospital pharmacists also draft guidelines and recommendations on important topics such as the appropriate use of pharmaceuticals.

In Austria there were in total 46 chief hospital pharmacists in 2008, which is considered as a rather small group. Informal contacts and exchange work very well within this homogeneous group. Austrian hospital pharmacists are organised within the Austrian Association of Hospital Pharmacists (AAHP) which is a branch of the union of employed pharmacists (Verband Angestellter Apotheker Oesterreichs, VAAOE). AAHP is a member of the European Association of Hospital Pharmacists (EAHP).[35]

[34] Art. 19a and Art. 24 of the Federal Hospitals Act [§19a and §24 Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

[35] http://www.aahp.at

In general the group of hospital pharmacists is quite small in Austria. Due to the lack of qualified staff they are not much involved in the work at hospital departments.

The establishment of clinical pharmacologists has no tradition in Austria. Although the employment of clinical pharmacologists contributes substantially to the increase of the safety of patients, this profession has not experienced a special focus. With the increasing importance of patient and pharmaceutical safety in hospitals, this situation could change. Furthermore the hospital pharmacists would like to include the knowledge and training of the pharmaceutical system in the educational system for medical personnel.

Use of antibiotics

In many Austrian hospitals a task force or guidelines are in place, which deal with critical issues concerning the use of antibiotics to avoid overuse and potential creation of resistance. In hospitals of the Tyrolean hospital owner organisation (Tiroler Landeskrankenanstalten GmbH, TILAK) doctors are asked to have a print-out of the guidelines on antibiotics with them to have them present at every incidence.

Safety of pharmaceuticals

The safety of pharmaceuticals (e.g. danger of confusion, handling of the product, information provided on the package etc.) used within hospitals plays an important role. In many Austrian hospitals a responsible person is nominated to take care of the safety of pharmaceuticals. Topics like pharmacovigilance and polypragmasy are covered by this person.

Several pilot projects (e.g. MEDSAFE[36] – with the help of a questionnaire hospitals can conduct a self-evaluation and succeeding benchmarking with the other participating hospitals) in a range of hospitals have been carried out in this field to increase the safety of pharmaceuticals in hospitals.

Quality management systems and pharmaceuticals

The quality of the pharmaceuticals is considered to be guaranteed by the strict authorisation conditions. But pharmaceuticals play a rather minor role within the quality management system of a hospital, which looks at processes and procedures, although pharmaceuticals present an integral part in the most important processes of hospital performance.

Different quality management systems are in place in all Austrian hospitals. Either they are applied at certain specific departments (e.g. ISO 9,000) or they cover the whole organisation of the hospital. Standard clinical paths and guidelines are prepared for individual hospitals or hospital owner organisation as a whole (e.g. Joint Commission).

[36] http://www.ipg.uni-linz.ac.at/fr_medsafe.htm

External audits

The financial conduct of public authorities is reviewed by the Austrian Court of Audit (Rechnungshof)[37] which also controls the activities of those hospital owners receiving public funds to finance the hospitals. External audits of whole hospitals or certain aspects are conducted irregularly. The final reports are published on the websites of the Austrian Court of Audit or the respective provincial Courts of Audit.

Expenditure of oncological pharmaceuticals

Cost-intensive pharmaceuticals in hospitals are mainly oncological pharmaceuticals. These are pharmaceuticals with the highest growth rates (e.g. plus 25% in comparison to the values of the previous year). A study of the Karolinska Institute[38] states that modern (antibody-) therapies are offered in Austria at a rather early and expensive stage. Other countries tend to wait before offering the therapies.

The decision on the use of oncological pharmaceuticals is critical and complex and also poses an ethical issue in some cases (e.g. to prolong the life of a cancer patient for 2 months by using a oncological pharmaceutical that costs € 4,000 per application).

5.2 Assessment

According to Evidence Based Medicine independent scientific reports and analyses (e.g. in international journals) have been regularly considered in decisions on the use and purchase of pharmaceuticals in Austrian hospitals. Either the proposing person delivers accompanying scientific information when suggesting a pharmaceutical or the chief hospital pharmacist provides for the required information. The appropriate consideration and interpretation of research reports has proved to be a key factor for successful decisions. Hospital pharmacists suggest including training on finding and reading international scientific reviews within their educational programmes.

Health Technology Assessments (HTAs)

However, HTA reports of pharmaceuticals are only considered in some cases. In Austria different institutes conduct research on HTAs. A national HTA strategy which arranges the different responsibilities of the players in this field is currently under assessment and will be published in 2009.

An online guide on HTAs[39] delivers an overview of the institutes, results and sources of HTA in Austria, selected countries and also cross-national. It is planned to involve hospital owners in the decision on HTA topics.

[37] www.rechnungshof.at

[38] http://ki.se/content/1/c4/33/16/Cancer_Report.pdf

[39] http://hta-guide.biqg.at/HTA/

Hospital owner organisations expressed an increased need for evaluating the effectiveness of expensive pharmaceuticals, as expensive pharmaceuticals do not always seem to be the best solution. Furthermore guidelines on the advantages of expensive pharmaceuticals and comparisons dealing with the question if the use of innovative products pays off would be needed.

6 Interface management

The use of pharmaceuticals in hospitals (often brands) influences the prescribing behaviour of outpatient doctors.

Hospital pharmacies purchase their pharmaceuticals at lower prices than the outpatient pharmacies due to the strategic importance of hospitals. It might happen that the hospital formularies are not aligned to the national outpatient Reimbursement Code (Erstattungskodex, EKO). Furthermore a change of the prescribed pharmaceutical in the outpatient sector and vice versa might lead to uncertainty from the patient's perspective.

Representatives of the different provincial sickness funds are members of the pharmaceutical commissions in hospitals. But the degree of participation and the role of the outpatient sector within these commissions differ between the Austrian provinces. A better alignment of the hospital pharmaceutical formulary and the national outpatient Reimbursement Code could lead to potential expenditure reductions in the outpatient sector. Additionally a higher pharmaceutical compliance could be achieved as the patient's needs are also considered.

Information exchange between the inpatient and outpatient sector

When patients are discharged from hospitals the patient himself/herself or the responsible doctor receives a discharge letter containing information on the pharmaceutical therapy. Pharmaceutical therapy needs to comply with the Reimbursement Code (EKO) and the Guidelines on Economic Prescribing of Pharmaceuticals and Medicinal Products (RÖV)[40]. Mostly a sentence is added that from the side of the hospital no objections exist to substitute the recommended pharmaceutical by a cost-saving pharmaceutical (e.g. generics). However, in practice the breach of the regulation does not lead to consequences.

Improvements in the communication between the inpatient and outpatient sector would also have a positive impact on safety and quality in pharmaceutical care. One approach for a better exchange of information could be a centralised collection of the information on the use of pharmaceuticals at one point. This task could be taken over by clinical pharmacologists, but this profession does not have tradition in Austria and is not very well developed.

Certain projects that deal with an improved cooperation between the inpatient and outpatient sector exist.

[40] According to Art. 24 Sect. 2 of the Federal Hospitals Act [§24 (2) Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBI. II No. 65/2002]

Medical service (Medizinischer Dienst) at hospitals

Medical staff of the sickness funds is placed in hospitals and helps to organise the provision of pharmaceuticals also in the outpatient sector. They are consulted by the hospital pharmacists and eventually clinical pharmacologists. This is mainly a service offered to the patients to allow for a smooth continuation of the medical therapy with pharmaceuticals also in the outpatient sector.

Automatic electronic approval service (Arzneimittelbewilligungsservice) at the time of discharge

Agreement between the provincial sickness funds and hospital owner organisations stipulated that pharmaceuticals which can be prescribed relatively freely in the outpatient sector (pharmaceuticals in the green box of the Reimbursement Code (EKO)) are not subject to an evaluation and can be used in the inpatient sector and in the following in the outpatient sector. If pharmaceuticals require a special authorisation (within the yellow or red box of the Reimbursement Code), chief doctors of the sickness funds evaluate the use of the pharmaceutical on the basis of single requests of patients. Currently pilot projects on the electronic approval of such pharmaceuticals (elektronisches Bewilligungsservice) in the outpatient sector are running using the e-card as communication tool. These electronic services also contain a tool, which indicates the most economic alternative pharmaceutical in the outpatient sector.

Shift of expensive treatment between the inpatient and outpatient sector

Due to coordination problems between the outpatient and inpatient sector a consistent therapy with pharmaceuticals might not be guaranteed. The dual (and separated) financing system of the inpatient and outpatient sector might cause a potential shifting of expensive treatments respectively to the other sector. The first use of a pharmaceutical is often realised in the inpatient sector whereas the follow-up-medication is taken care of by outpatient doctors. This is mainly due to the fact that at the time of first prescription of a certain pharmaceutical an extensive medical observation is required which can only be offered in the inpatient sector. But the current funding and reimbursement situation does not allow for an appropriate financing of certain services in the hospital outpatient departments.

In the Austrian province Tyrol a pilot project (Pharmaceuticals at the interface, Heilmittel an der Schnittstelle) initiated by the Tyrolean sickness fund is currently running which exactly deals with such shifts of expensive pharmaceutical treatments (oncological pharmaceuticals and rheumatologic pharmaceuticals) between the inpatient and outpatient sector. One of the main aims is to realise an adequate financial approach for reimbursing these services in the sector where those pharmaceuticals are applied.

Interface management is also organised by transition nursing (Überleitungspflege) and coordinators of cases and care.

7 Developments and outlook

Reform of the Austrian health care system

One of the main challenges within the Austrian pharmaceutical system is, as in many other countries, the rising pharmaceutical expenditure (PE). The major reasons for growing costs are an ageing population and the uptake of new, more expensive pharmaceuticals (e.g. oncological pharmaceuticals). The fast uptake of new pharmaceuticals is a threat to the rational use of pharmaceuticals, including good prescribing practice by doctors and patient adherence to the treatment.

Due to rising costs and other occurrences in the Austrian health care system the Austrian sickness funds are confronted with growing deficits, despite of the reduction of VAT on pharmaceuticals from 20% to 10% from 1 January 2009 on. At the end of June 2009 the Austrian Main Association of Austrian Social Security Institutions (HVB) presented a cost-containment strategy for the sickness funds. The reform concept includes measures to reach a balanced financial conduct of the sickness funds until 2015 and should be aligned with all partners of the system (e.g. doctors etc.). The following topics with regard to pharmaceuticals will be addressed:

- Differentiated prescription fees allowing lower fees for patients who take a low-cost pharmaceutical of the same pharmaceutical effect;
- The prescription of smaller pharmaceutical packages;
- Use of “dialogue on pharmaceuticals”: At the time of prescribing, the doctor sees in an electronic system all comparable and interchangeable pharmaceuticals ranked by the price. Thus the doctor knows about the least and most expensive products on the market. In case the doctor prescribes high-price-products, he or she is asked to enter in a dialogue process with the sickness funds.

Also the inpatient sector will be subject to reform (not yet included in the reform strategy):

- Mandatory use of the outpatient Reimbursement Code (EKO) in all public hospitals;
- One stop financing - Funding of the health system “from one source”: To reduce the occurring shifts of performances of expensive treatments between the inpatient and outpatient sector, the approach that funds are provided by a single payer is considered. The current dual financing system might be subject to extensive and drastic reform plans;
- Active voice of the sickness funds in the organisation of the inpatient sector (which is not in place at the moment, although the Austrian sickness funds contribute more than 45% to the funding of the inpatient sector).

Interface management

Projects around the electronic health file (elektronische Gesundheitsakte, ELGA) and the e-card work on the information and data exchange between the different players in the health care system. Information on pharmaceuticals is also covered within these projects, which might facilitate the information flow between the inpatient and outpatient sector. This might allow a better monitoring of prescription and use of pharmaceuticals in the inpatient and outpatient sector. Also the authorisation of pharmaceuticals used in the inpatient sector for the outpatient sector should be dealt with on an electronic basis.

The implementation of medical consultants or head doctors (Chefarzt) in hospitals, the integration of the Austrian Reimbursement Code in the inpatient sector and the enforcement of the representation of the sickness funds within the hospital pharmaceutical commissions are stated as future plans for improvement.

Projects which deal with safety of pharmaceuticals in the outpatient sector could also be extended to the inpatient sector.

IT-based automation of the provision of pharmaceuticals in the inpatient sector

Pharmaceutical provision with the help of IT-based automation within hospitals still needs to be further developed in Austria. However future trends show a continuing automation in this field (e.g. automated drug management system).

Also a prescription software, which is not in place in all Austrian hospitals, would facilitate the management of pharmaceuticals e.g. regarding the traceability.

8 References and data sources

8.1 Literature and documents

Austrian Laws

Austrian Federal Hospitals Act [Krankenanstalten- und Kuranstaltengesetz (KAKuG 1957) i.d.F. BGBl. II No. 65/2002]

Nine provincial hospital acts [Landesgesetze]:

- Burgenländisches Krankenanstaltengesetz 2000 LGBl. No. 52/2000 i.d.F. LGBl. No. 45/2001)
- Kärntner Krankenanstaltenordnung 1999 - K-KAO LGBl. No. 26/1999
- NÖ Krankenanstaltengesetz 2008 LGBl. 9440, 25th amendment of 22/02/2008
- OÖ Krankenanstaltengesetz 1997 LGBl. No. 132/1997 i.d.F. LGBl. No. 122/2006
- Salzburger Krankenanstaltengesetz 2000 LGBl No. 24/ i.d.F. LGBl No. 55/2007
- Steiermärkisches Krankenanstaltengesetz 1999 – KALG LGBl. No. 66/1999 (WV) 4th amendment LGBl. No. 145/2006 (XV. GPStLT RV EZ 612/1 AB EZ 612/5)
- Tiroler Krankenanstaltengesetz - Tir KAG, LGBl. No. 5/1958 i.d.F. LGBl. No. 77/2008
- Gesetz über Krankenanstalten Vorarlberg LGBl. No. 54/2005, 7/2006, 67/2008
- Wiener Krankenanstaltengesetz 1987 - Wr. KAG, 24/03/1987 LGBl. No. 23/1987 i.d.F. 30/01/2009 LGBl. No. 13/2009

Agreement according to the Federal Constitution Article 15a [Bundes-Verfassungsgesetz BGBl. No. 1/1930 i.d.F. BGBl. I No. 100/2003] on the organisation and financing of the health care system 2008-2013 [Organisation und Finanzierung des Gesundheitswesens BGBl. I No. 105/2008]

Austrian Medicines Act 2005 [Arzneimittelgesetz 2005; i.d.F. Bundesgesetz, mit dem das Arzneimittelgesetz, das Rezeptpflichtgesetz, das Medizinproduktegesetz, das Tierarzneimittelkontrollgesetz, das Gesundheits-und Ernährungssicherheitsgesetz und das Arzneiwareneinfuhrgesetz 2002 geändert werden, BGBl. 153/2005 of 28.12.2005]

The Austrian Social Insurance Law [Allgemeines Sozialversicherungsgesetz BGBl. No. 189/1955 i.d.F. BGBl. I No. 194/1999]

The Federal Health Care Documentation Act [Dokumentation im Gesundheitswesen BGBl. No. 745/1996 i.d.F. BGBl. I No. 5/2001]

Regulation on the documentation of diagnoses and services in the inpatient sector [Diagnosen- und Leistungsdokumentationsverordnung BGBl. II No. 589/2003]

Regulation on cost accounting for hospitals funded by provincial health funds [Kostenrechnungsverordnung für landesfondsfinanzierte Krankenanstalten BGBl. II No. 638/2003]

The classification of pharmaceuticals into prescription-only or non-prescription medicines follows the Prescription Act [Rezeptpflichtgesetz BGBl. No. 413/1972 i.d.F. BGBl. I No. 36/2008]

The Pharmacy Act [Apothekengesetz RGBl. No. 5/1907 i.d.F. BGBl. I No. 5/2004]

The Price Act [Preisgesetz 1992 BGBl. No. 145/1992 i.d.F. BGBl. I No. 2/2008

Regulation on the Operation of Pharmacies [Apothekenbetriebsordnung 2005 BGBl. II No. 65/2005]

Regulation on the Operation of Pharmaceuticals [Arzneimittelbetriebsordnung 2009 BGBl. II No. 324/2008]

Addictive Substances Act [Suchtmittelgesetz 1997 BGBl. I No. 112/1997 i.d.F. durch BGBl. I No. 143/2008]

Regulation on addictive drugs [Suchtgiftverordnung 1997 BGBl. II No. 374/1997 i.d.F. BGBl. II No. 480/2008]

Publications

AGES PharMed 2007
AGES: Pharmaceuticals in Austria are safe. Press release on 23 July 2007. Vienna: AGES. In online: http://www.ages.at/

BMGF 2004
The organisation of the Austrian DRG system. Vienna: BMGF. In online: http://www.bmgfj.gv.at/cms/site/attachments/1/4/8/CH0718/CMS1098272734729/lkf-broschuere_internet.pdf

BMGF 2005
Public Health in Austria. 4th edition. Vienna: BMGF. In online: http://www.bmgf.gv.at/cms/site/attachments/8/6/6/CH0083/CMS1051011595227/public_health_in_austria_2005_internet.pdf

BMGFJ 2008a
Hospitals in Austria. 7th edition. Vienna: BMGF. In online: http://www.bmg.gv.at/cms/site/attachments/6/9/9/CH0786/CMS1039007503101/ka-verzeichnis_2008_gesamt_internet2.pdf

BMG 2009a
List of hospitals in Austria as of 20th January 2009. Vienna: BMG. In online: http://www.bmgfj.gv.at/cms/site/standard.html?channel=CH0786&doc=CMS1039007503101

BMG 2009b
Hospitals in Figures. Inpatient hospital stays. Vienna: BMG. In online: http://www.kaz.bmgf.gv.at/

Hofmarcher M. M., Rack H-M. 2006
Austria: Health systems review. Health Systems in Transition. 8 (3): 1-247. Copenhagen: WHO Regional Office for Europe

HVB 2005
Handbuch der österreichischen Sozialversicherung 2005. Vienna: Hauptverband der österreichischen Sozialversicherungsträger

HVB 2006a
Sozialversicherung in Zahlen 2006. 17. Ausgabe: August 2006. Vienna: Hauptverband der österreichischen Sozialversicherungsträger. In online: http://www.sozialversicherung.at/mediaDB/114072.PDF

HVB 2006b
Heilmittelstatistik für 2005. Vienna: Hauptverband der österreichischen Sozialversicherungsträger

HVB 2007
Heilmittelstatistik für 2006. Vienna: Hauptverband der österreichischen Sozialversicherungsträger

Langebner T. 2004
Hospital Pharmacy in Austria. In: European Journal Hospital Pharmacy Practice No.: 5; Pages: 53- 53. Mol: EAHP

ÖAK 2008
Apotheke in Zahlen / Pharmacy in Figures 2007. Vienna: ÖAK. In online: http://www.apotheker.or.at/internet/oeak/ZDF_1_0_0a.nsf/fsStartHome!OpenFrameset

ÖAK 2009
Apotheke in Zahlen / Pharmacy in Figures 2008. Vienna: ÖAK. In online: http://www.apotheker.or.at/internet/oeak/ZDF_1_0_0a.nsf/fsStartHome!OpenFrameset

ÖBIG 2006
Interface management of pharmaceuticals. Comparison of Austria and the Netherlands. Vienna: ÖBIG

ÖBIG FP 2008
Tendering of Pharmaceuticals in EU Member States and EEA countries. Results from the country survey. Vienna: ÖBIG FP

PHARMIG 2005
Daten und Fakten 2003. Vienna: PHARMIG

PHARMIG 2006
Daten und Fakten 2004. Vienna: PHARMIG

PHARMIG 2008
Daten und Fakten 2006. Vienna: PHARMIG

PPRI 2008a
Pharmaceutical Pricing and Reimbursement Information. Austria Profile 2008. Vienna: ÖBIG. In online: http://ppri.oebig.at/

PPRI 2008b
Pharmaceutical Pricing and Reimbursement Information. PPRI Report. Vienna: ÖBIG. In online: http://ppri.oebig.at/

Statistics Austria 2002
Health Statistics Yearbook 2000. Vienna: Statistics Austria

Statistics Austria 2006
Health Statistics Yearbook 2005. Vienna: Statistics Austria. In online: http://www.statistik.at/web_de/dynamic/services/publikationen/4/publdetail?id=4&listid=4&detail=294

Statistics Austria 2007
Health Statistics Yearbook 2006. Vienna: Statistics Austria. In online: http://www.statistik.at/web_de/dynamic/services/publikationen/4/publdetail?id=4&listid=4&detail=439

Statistics Austria 2008
Health Statistics Yearbook 2007. Vienna: Statistics Austria. In online: http://www.statistik.at/web_de/dynamic/statistiken/gesundheit/publdetail?id=4&listid=4&detail=495

Statistics Austria 2009
Health Expenditure in Austria according to OECD System of Health Accounts. Vienna: Statistics Austria. In online: http://www.statistik.at/web_en/statistics/health/health_expenditure/index.html

Wilking N., Jönssen B. 2005
A pan-European comparison regarding patient access to cancer drugs. Stockholm: Karolinska Institutet in collaboration with Stockholm School of Economics

Web links

Austrian Association of Hospital Pharmacists / Arbeitsgemeinschaft Österreichischer Krankenhausapotheker: www.aahp.at

Austrian Chamber of Pharmacists / Österreichische Apothekerkammer: http://www.apotheker.or.at/

Electronic health file: http://www.arge-elga.at/

European Association of Hospital Pharmacists: http://www.eahp.eu/

Information on the Austrian e-card system: www.chipkarte.at

Information on Austrian Laws and Enactments may be accessed at:
www.ris.bka.gv.at/auswahl/

Gesundheit Österreich GmbH: www.goeg.at

Hospitals in figures: http://www.kaz.bmgf.gv.at/

Ministry of Health (BMG): www.bmg.gv.at

Official Gazette of the Austrian Social Insurance: www.avsv.at

Österreichische Sozialversicherung / Austrian Social Health Insurance:
www.sozialversicherung.at

Statistik Österreich / Statistics Austria: http://www.statistik.at

Pharmaceutical Pricing and Reimbursement Information: http://ppri.oebig.at/

PHARMIG (Verband der pharmazeutischen Industrie Österreichs / Austrian Association of Pharmaceutical Companies): www.pharmig.at

Other

BMGFJ (2008b). KDOK. Programme for the documentation in hospitals. Vienna (restricted access, not available for the public)

8.2 Contacts

The authors of the report visited the hospital pharmacy of the biggest hospital in Austria (AKH Vienna).

The following national hospital experts contributed to the realisation of this report:

Mag. Marion Alt (LKH Oberwart), Mag. Hermine Binder (LKH St. Pölten), Univ. Prof. Dr. Wolfgang Buchberger, M.s.c, (LKH und University hospital Innsbruck), Mag. Elfriede Dolinar (EAHP, AKH Vienna), Dr. Arnold Gabriel (Health department of the Carinthian State Government), MMag. Katrin Gebhart (Orthopaedic hospital Speising, Vienna), Dr. Wolfgang Gerold (KAV Vienna), Dr. Klaus Kaltenbrunner (LKH Villach), Dr. Klaus Klaushofer (Hanusch hospital, Vienna), Dr. Max Laimböck (UoA Innsbruck), Mag. Thomas Langebner (BHS KH Linz), Dr. Arno Melitopulos (GÖG/ÖBIG), Mag. Petra Paretta (GÖG/ÖBIG), Dr. Siegfried Preindl (TGKK), Mag. Gabriele Schrammel (LKH Wiener Neustadt), Dr. Gerhard Speer (LKH und University hospital Innsbruck), Dr. Ralph Spernol (LKH Villach), Mag. Andreas Wachter (LKH Villach).