

World Health Organization Regional Office for Europe

Advisory Support to Primary Health Care Evaluation Model:
Estonia PHC Evaluation Project

Final Report

Dr Rifat Atun

MBBS MBA DIC MFPH FRCGP

WHO Consultant

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Acronyms and abbreviations

DANIDA	Danish International Development Agency
DFID	UK Department for International Development
ECA	Eastern Europe and Central Asia
EHIF	Estonian Health Insurance Fund
EU	The European Union
FD	Family Doctor
FP	Family Physician
GDP	Gross domestic product
GP	General Practitioner
HIF	Health Insurance Fund
MOSA	Ministry of Social Affairs
NHA	National Health Accounts
NHS	UK National Health Service
OECD	Organization for Economic Cooperation and Development
PC	Primary Care
PHC	Primary Health Care
RCT	Randomized controlled trial
SIDA	Swedish International Development Agency
THE	Total Health Expenditure
UK	United Kingdom
USAID	United States Agency for International Development
WB	The World Bank
WHO	The World Health Organization

1. Introduction

Globally, governments are searching for ways to improve equity, efficiency, effectiveness, and responsiveness of their health systems. The WHO World Health Report identifies many countries falling short of their performance potential.¹ There is no agreement on optimum structures, content, and ways to deliver cost-effective services to achieve optimal health gain for the population. Nor are there satisfactory solutions to meet increasing demand, correctly identify need in different population segments, and offer programmes to meet these needs to address inequalities in access and health outcomes.

In recent years, globally, there has been an acceptance of the role of Primary Health Care (PHC) in providing cost effective health care.^{2 3 4} The Director General of the WHO, Lee Jong-wook, recently stressed the importance of Primary Health Care “to improve health-care access and outcomes while narrowing equity gaps”.⁵ He identified the scaling-up of health-care systems based on the principles of primary health care as a key priority for the WHO. Citing the World Health Report 2003, he emphasized the broad ethical commitment to equity which grounds a system based on primary health care and such a system’s integrated service structure—“principled, integrated care.”⁶

Over the last 10 years, since the breakup of the Soviet Union, the transition from planned to market economy has led to major upheavals in the health care systems in many of the transition countries in Eastern Europe and Central Asia (ECA). As part of health sector reform many ECA countries have attempted to strengthen their primary health care systems through introduction of modern methods of organization and care delivery and financing to improve the quality of care, access, and increase the efficiency of their health system. These reform efforts were supported by international agencies such as the World Health Organization (WHO), the World Bank (WB), the European Union (EU) and, bilateral agencies including UK Department for International Development (DFID), United States Agency for International Development (USAID), Swedish International Development Agency (SIDA), and Danish International Development Agency (DANIDA).

The investment by the countries and the international agencies has been significant. For example, the World Bank investment to date in the ECA Region for strengthening PHC amounts to over US\$200 million of lending which corresponds to 80 percent of total investment in health. In many of these countries the WHO and the World Bank successfully established joint investment programmes with other agencies such as SIDA, UK DFID and USAID.

Approaches and models of PHC reforms introduced have varied widely from country to country and sometimes within a single country. Some countries have attempted systemic interventions combining legal, structural, organizational, financing, programmatic and instrumental reforms. Most of the countries have introduced new models of PHC based on family medicine (FM). These models, approaches, and priorities have varied. The reforms have touched one or more aspects of PHC such as : (i) legislation; (ii) organization and ownership of services

(including privatization of services in some countries); (iii) improvement of physical assets (buildings and equipment); (iv) introduction of new care methods through evidence-based protocols; (v) changes in the professional profile of primary care staff; (vi) training of physicians and nurses; (vii) definition of the package of services to be provided in primary care, and; (viii) methods of contracting and provider payments.

Some countries have introduced deeper changes in certain areas than others. For example, training of family physicians may vary from three months to three years and provider payment systems vary from budgets to performance-related weighted per capita pay. Few countries, however, have been comprehensive and taken a holistic approach. A number of countries have carried out pilot projects of new models of PHC in parts of the country, but have not succeeded in scaling up pilot reforms to cover the whole country.

However, despite such significant investment the programmes to strengthen PHC have not been systematically evaluated and the experience is still sketchy and the lessons learned scarce. Therefore, there is a need to capture the experience, draw lessons from successes and failures, and establish an evidence base to inform decision makers.

Estonia is singled out as an example in the ECA Region where comprehensive PHC reforms have been successfully implemented. However, there has not been a detailed evaluation of the PHC reforms in Estonia to ascertain whether indeed the reforms were successful and if so what factors contributed to this success. Hence, a systematic and detailed review of the ten years of experience in Estonia is very timely to explore the experience, identify where the reforms have been particularly successful, where challenges remain and pick out lessons that can be shared with the countries in ECA Region.

2. Defining Primary Care

Primary health care has been variously defined in terms of concept, level, content of services, team membership, and process. Defining primary care is fraught with difficulties. An attempt at defining primary care in the US yielded no less than 92 definitions.⁷ Similarly, in Europe the definition of PHC varies by country.^{8,9}

In the Alma Ata declaration the World Health Organization defined primary health care as 'essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally available to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination'.¹⁰ Although, many transition countries, have yet to attain a primary care level defined in the Alma Ata declaration¹¹ most countries in the ECA Region have surpassed it. For them primary health care can be viewed as 'a strategy to integrate all aspects of health services'.¹²

Primary care is seen as an 'integral, permanent, and pervasive part of the formal health care system in all countries'¹³ or conceptualized as the 'means by which the two goals of health services system (optimization of health and equity in distributing resources) are balanced. It addresses the most common problems in the community by providing preventive, curative, and rehabilitative services to maximize health and well-being. It integrates care when more than one health problem exists, and deals with the context in which illness exists and influences people's responses to their health problems. It is care that organizes and rationalizes the deployment of resources, basic as well as specialized, directed at promoting, maintaining, and improving health'.¹⁴

Primary health care is often equated with a 'gate-keeping' role.¹⁵ However, it plays a more fundamental role than just gate-keeping. Primary care is a key process within the health system.¹⁶ It is first contact, front-line care, ongoing care, comprehensive care and coordinated care'.¹⁷ First contact care is accessible at the time of need; ongoing care focuses on the long term health of a person not on the short term duration of the disease; comprehensive care is a range of services appropriate to the common problems in the population available at the primary care level, and; co-ordination is a role by which primary care acts to co-ordinate other specialist services that the patient may need. Any evaluation of primary health care reforms, therefore, must also establish whether the changes following the reforms have resulted in a PHC system with these key attributes.

3. Objective

The objective of the consultancy was to undertake an evaluation to review the experience of PHC reforms in Estonia. The Terms of Reference for the evaluation is appended in Annex 1.

The consultant worked with Estonian counterparts to develop and agree an evaluation framework to assess the current situation and to compare it with the health policy objectives set by the Estonian Government. The evaluation focused on developing a detailed case study of the PHC reforms in Estonia

4. Methodology

A research instrument was developed by the consultant in the inception phase of the evaluation in collaboration with the Ministry of Social Affairs (MoSA) officials. This analytical instrument allowed a systematic approach to analysing the reforms and gather relevant data. Both primary and secondary research using qualitative and quantitative methods of inquiry were employed in data generation.

Secondary research included a review of published literature relating to the Estonian health reforms in general and PHC in particular. This review was supplemented by documentary analysis of published reports, key legal instruments and policy documents. Secondary research also involved analysis of quantitative data from studies undertaken in Estonia and from the routinely collected epidemiological statistics and data relating to health service activities collected by the Estonian Health Insurance Fund. The consultant worked closely with counterparts in the Ministry of Social Affairs to gather relevant secondary data. Longitudinal as well as cross sectional data were used to inform the case study. The longitudinal data was used to assess changes in certain indicators before and after the PHC reforms. Cross sectional data were used to ascertain incidence and prevalence for key conditions.

Primary research used qualitative methods through use of a specifically-designed semi-structured questionnaire for face-to-face in-depth interviews of key informants. A 'purposive sampling' technique was employed with 'snowballing' to capture a multi-level multi-stakeholder sample of key informants involved in PHC reforms, in particular policy development and implementation.¹⁸

The evaluation drew on internationally validated instruments and studies to develop a set of indicators to measure changes in key health system objectives of equity, efficiency, effectiveness and choice. For instance, for effectiveness dimension indicators were developed to identify whether conditions commonly encountered in PHC — such as diabetes, acute respiratory illness and hypertension — were effectively managed in PHC setting in Estonia.¹⁹

The analysis informed the detailed case study that captured the key changes relating to design and implementation of PHC reforms in Estonia including the drivers and barriers to reform, factors influencing the establishment of an enabling environment for change and the lessons learnt.

The instrument developed in the inception phase identified the main parameters of the study and specified indicators which can also be used for baselining, monitoring and evaluating PHC reforms.

4.1. The evaluation framework

Kutzin suggests a three-step approach to evaluating health reforms to describe: (1) key contextual factors driving reform, (2) the reform itself and its objectives, and (3) the process by which the reform was (is being) implemented.²⁰ To this

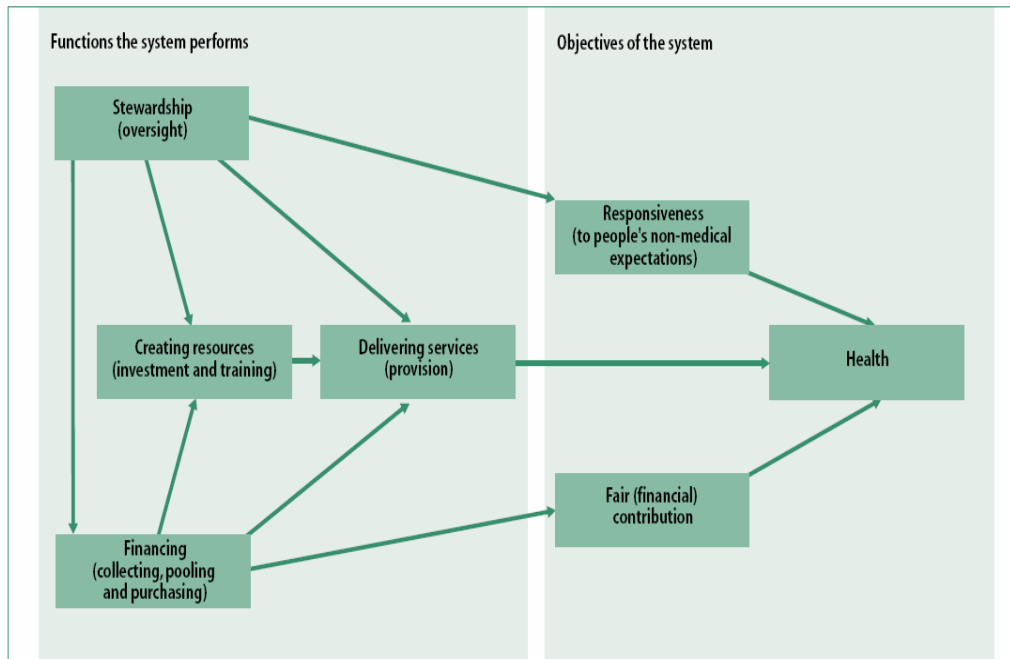
approach three further steps can be added: (4) describing clearly the changes introduced by the reforms (5) analyzing the impact of these changes on health system objectives and goals – such as equity, efficiency, effectiveness, choice, improved health (level and distribution), financial risk protection and user satisfaction, and (6) establishing whether the reforms have achieved the policy objectives set by the Government – or the agency leading the reforms – at the start of the reforms.

An evaluation should describe key features of the main policies, structural changes, and the new mechanisms and processes introduced as a result of reforms. Where possible, the evaluation should also describe and measure changes in health system performance and try and establish causal linkages between intervention and outcome – to assess the extent to which the changes observed can be attributed to the reform implemented. However, in real life attribution and establishing causal links are not easy – as reforms are not isolated experiments in a controlled setting. They are not clearly discernable interventions but tend to be multifaceted and complex change programmes. Health reforms do not happen in a laboratory²¹: they are not ‘ahistorical’ or ‘acontextual’ but tend to follow a trajectory of development and changes over a period of time – and hence can be considered to be part of a continuum rather than a discrete event. Hence, many scholars prefer the use of the term ‘health system development’ rather than ‘health system reform.’

A further difficulty with evaluation of health reforms arises with establishing causal linkage between the interventions and changes in health outcomes, which are influenced by a multiplicity of personal as well as non-health factors – such as the stage of economic development in the country, income, education, lifestyle choices, poverty, environment and housing.^{22 23} Therefore, in practice it is very difficult to separate contextual factors from policy interventions and clearly establish causal links. Given these difficulties, any method used to evaluate complex policy interventions will have limitations. Nevertheless, a systematic approach to evaluation can yield useful information which can be used to reach plausible conclusions about influence of reforms.

A number of frameworks have been developed for analyzing performance of health systems. That developed by the World Health Organization (WHO) for comparative evaluation of health systems performance of the member countries provided the basis of the World Health Report 2000.²⁴ (figure 1) The WHO Performance Assessment Framework enables assessment of the health systems performance in terms of attainment of a number of goals: average health level, distribution of health, average responsiveness, distribution of responsiveness and fairness of financial contribution. The World Health Report 2000 and the WHO Performance Assessment Framework have both generated significant debate on measuring performance at the country level.²⁵ As a result, WHO has further developed and refined its framework and approach to performance assessment.

Figure 1. WHO Framework for measuring health systems performance



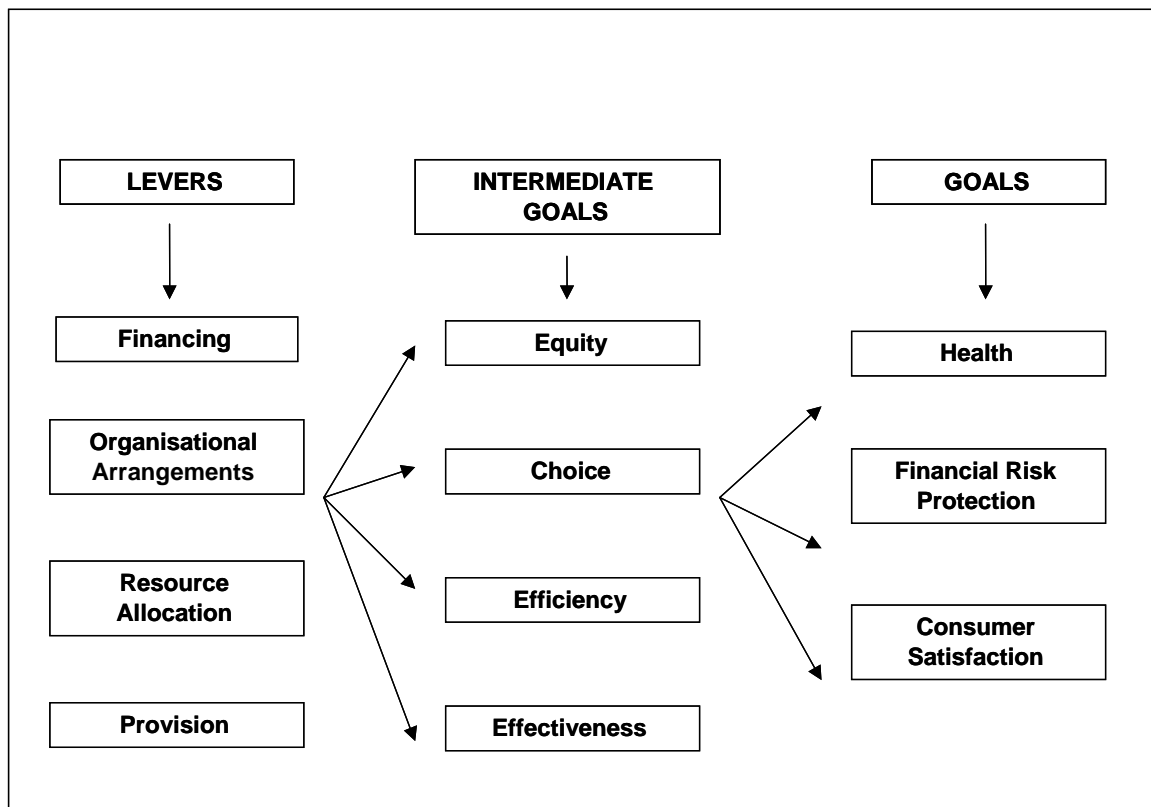
Source: World Health Report 2000. World Health Organization, Geneva.

Other frameworks used in analysis of health systems focus on efficiency²⁶, financing²⁷, or equity of access and financial sustainability. In relation to PHC, there are evaluation frameworks which focus on quality alone.²⁸ These frameworks have strengths but also limitations. Many of the existing frameworks for health systems performance measure health sector inputs, resources and processes rather than outputs or outcomes — probably as health sector inputs and processes are easier to measure and data more readily available. However, an analytical framework used to assess health systems should also capture data on outputs and outcomes of the system and, as suggested by Frenk, interrelationships between health system elements.²⁹ A health system is made up of elements that interact together to make up a complex system whose sum is greater than its parts. The interactions of these elements affect the achievement of health system goals (such as health, financial protection and responsiveness). Although the emphasis on achieving these goals varies in different countries they are commonly shared. Moreover, the wider context within which the health system functions and interacts also needs to be evaluated.

The framework used for evaluating the Estonian PHC reforms is shown in figure 2. This framework builds on that developed by Hsiao.³⁰ The framework identifies four levers available to the policy makers when managing the health system. Modification of these levers enables policy makers to achieve different intermediate objectives and goals. These levers include: (i) 'financing' (how the funds are collected, pooled); (ii) 'resource allocation and provider payment systems' (how the pooled funds are allocated, and the mechanisms and methods used for paying health service providers); (iii) 'organisational arrangements', which describe the policy and regulatory environment, stewardship function, and structural arrangements for purchasers, providers and market regulators, and; (iv),

‘provision’ lever, which refers to the ‘content’ – that is, what services the health sector provides rather than the structures within which this ‘content is delivered.’³¹ The intermediate goals identified in the framework (equity, [technical and allocative] efficiency, effectiveness and choice) are frequently cited by others as end-goals in themselves. However, this framework, along with others, use health, financial risk protection and consumer satisfaction as the ultimate goals of health systems.^{24 30}

Figure 2. A framework for analyzing health systems



Source: Atun R. and Chhugani N. 2001.

The evaluation explores how the PHC reforms in Estonia contributed towards achieving health system objectives and attainment of key attributes of a PHC system.

There have been a number of analytical discourses on the PHC reforms in Estonia. These are well described in the literature.^{32 33 34 35 36} There have also been evaluations of the PHC reforms with a focus on efficiency³⁷, equity^{38 39}, health outcomes, health service delivery and changes^{40 41 42} and user satisfaction.^{43 44} These evaluations have shown improved efficiency and user satisfaction.

However, the evaluations thus far have not focused on effectiveness and equity. The current evaluation will build on the excellent work done and the findings related to efficiency and user satisfaction but also focus on equity, effectiveness, and where possible, health outcomes and financial protection.

4.2. Analysis of Changes in Health System Elements

The evaluation analyzed main changes in financing, resource allocation, organization, provision and resource generation. (Tables 1-5)

Table 1. Financing

Area of analysis	Data sources
Collection and Pooling	Regulatory documents and Estonia HiT
Total Health Expenditure Indicators: Absolute and relative expenditure for PHC and hospitals	MoSA statistics, HIF statistics, Health Accounts
Out of pocket payments for PHC: Indicator: absolute levels of out-of-pocket payment, where possible disaggregated by socio-economic status and geography	MoSA statistics, HIF statistics, Health Accounts, Surveys

Table 2. Resource allocation and provider payment system

Area of analysis	Data sources
Resource allocation formula used to finance regions	HIF and Estonia HiT
Resource allocation formula for PHC	Ditto
Provider payment systems for PHC and Hospitals	HIF and Estonia HiT
Incentives	Interviews

Table 3. Organization

Area of analysis	Data sources
Changes in legislation and regulations regarding: <ul style="list-style-type: none"> • Family medicine and PHC • Licencing and accreditation • Professional associations • Training of Family Physicians and family nurses 	Regulatory documents and Estonia HiT
Organization of PHC providers: <ul style="list-style-type: none"> • Types of practices: single or group, private or public • Staffing patterns and workloads for doctors and nurse 	MOSA, HIF, FMA
Contracts: Details of the contract with PHC providers	Regulatory documents
Facilities: Changes in physical infrastructure and equipment	MOSA, HIF, FMA
Prescribing patterns for key conditions managed in PHC	MOSA, HIF, FMA

Table 4. Provision

Area of analysis	Data sources
Scope of Services in PHC	Regulatory Documents
Key changes in delivery of PHC services <ul style="list-style-type: none"> • Opening hours/availability • Direct access to PHC level providers • Change in service content <ul style="list-style-type: none"> ○ Guidelines ○ Secondary to primary shift 	Regulatory documents and Contracts
• Referral and counter-referral systems	Ditto

Table 5. Resource Generation

Area of analysis and indicators	Data sources
• Manpower policy and planning: Balance of FPs v Specialists	MOSA Statistics
• Total numbers of Family Physicians trained	MOSA Statistics
• Total numbers of Family (PHC) Nurses trained	MOSA Statistics
• Organization of training and curriculum at undergraduate and postgraduate level	University of Tartu
• Continuing professional development	University of Tartu
• Mechanisms to retain trained professionals	Interviews
• Immigration and attrition problems encountered	Doctors immigration study

4.3. Intermediate Goals

These are equity, efficiency, effectiveness, and choice. The key indicators to measure the intermediate outcomes are shown in tables 6 to 10.

4.3.1. Equity

For equity the evaluation will focus on access and coverage, both the level and distribution. (Table 6)

Table 6. Equity indicators

Area of analysis and indicators	Data source
Access to PHC : Percentage of the population covered by health insurance for FM services	HIF, household surveys, NHA
Accessibility: Distance from PHC centres	HIF, household surveys
Utilization of PHC Services	HIF, Emor survey and Equity Study
Fairness in financing: Out of pocket expenditure for PHC	HIF, NHA, household surveys

4.3.2. Efficiency

For efficiency, the indicators developed by Koppel et al are used.⁴⁵ These indicators have been already used in Estonia used to examine allocative and technical efficiency as well as financial sustainability for the period 1997-2003, and the results published elsewhere.⁴⁵ These indicators are shown in table 7.

Table 7. Efficiency indicators

Area of analysis and indicators	Data source
<p>Allocative efficiency:</p> <ul style="list-style-type: none"> • Percentage of health expenditure allocated to PHC • Number of doctors specialized in family practice (certified in current year per cumulative sum) • Number of family physicians (FPs) per 10,000 inhabitants • Ratio of available versus planned number of FPs • Distribution of group (G) and solo practices (S) by number of FPs working in family practice • Distribution of group (G) and solo practices (S) • Average size of a family practice patient list • Average size of a patient list in the solo practices • Average size of patient list in the group practices • Average number of FPs in group practice • Number of family nurses per FP 	<p>Soc Sci Med article (Ref 45)</p>
<p>Technical efficiency:</p> <ul style="list-style-type: none"> • Average annual number of visits per one FP • Average annual number of FPs visits per one inhabitant • Average number of visits to FP per person in patient list • Ratio of the number of FPs home visits from all visits • Percentage of FPs possessing complete equipment * 	<p>Ditto</p>
<p>Financial sustainability:</p> <ul style="list-style-type: none"> • Proportion of capitation within the FP's budget • Proportion of basic practice payment in the FP's budget • Percentage of expenditures on procedures and analyses separately paid for, and not included in capitation, in comparison with total capitation money • Share of PHC expenses within health insurance expenditures for buying health care services • Share of PHC expenses within the total health expenditures 	<p>Ditto</p>

4.3.3. Effectiveness

For effectiveness, the evaluation aimed to establish to what extent the reforms have led to attainment of key attributes of a PHC system — namely, first contact, continuity, comprehensiveness and coordination.

First contact refers to care that is accessible at the time of need, especially for acute conditions. Therefore, the indicators of effectiveness in this dimension should focus on the common acute clinical conditions which PHC team should be able to diagnose and manage – without resort to referral to secondary care level. One way of measuring this would be to look at ‘avoidable hospitalizations’ for common acute clinical conditions – for instance, admissions for acute ENT problems, urinary tract infections (UTI), bronchiolitis. (Table 8)

Table 8. Effectiveness indicators – First contact care for acute conditions

Indicators	Data Source
<ul style="list-style-type: none"> Aggregate number of referrals by FPs to hospital outpatients for acute ENT problems (Otitis media ICD 10 codes H65 and H66 and tonsillitis ICD 10 code J03) Aggregate number of admissions to hospital for acute ENT problems: Tonsillitis ICD 10 code J03, Otitis media ICD 10 codes H65 and H66 	HIF
<ul style="list-style-type: none"> Aggregate number of referrals by FPs to hospital for acute UTI (ICD 10 code N39.0) Aggregate number of admissions to hospital for acute UTI 	
<ul style="list-style-type: none"> Aggregate number of referrals by FPs to hospital for LRTI (bronchitis, bronchiolitis, pneumonia) in children aged under 5 (ICD 10 codes J10-18 and ICD 10 codes J20 and J21) Aggregate number of admissions to hospital for LRTI in children aged under 5 	

Ongoing care focuses on the long term health of a person by PHC to prevent illness and worsening of chronic conditions — not just consultations for exacerbations of illness. Therefore, the evaluation in this area focused on effective management of chronic conditions which can be effectively managed by the PHC team and for which there should be low referral rates to secondary level – for instance hypertension, ischaemic heart disease, heart failure, non-insulin dependent diabetes mellitus, depression and asthma. (Table 9)

Table 9. Effectiveness indicators: Continuity of care for chronic illness

Indicators	Data Source
Hospitalizations for hypertension (ICD i10) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for hypertension Aggregate number of admissions to hospital for hypertension Prescribing patterns for hypertension 	HIF
Hospitalizations for NIDDM (ICD E11) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for NIDDM Aggregate number of admissions to hospital for NIDDM Prescribing patterns NIDDM 	
Hospitalizations for asthma (ICD J45) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for asthma Aggregate number of admissions to hospital for asthma Inhaled Corticosteroid to B2 agonist ratio 	
Management of ischaemic heart disease (IHD)/angina (ICD i20 & ICD i25) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for IHD/angina Aggregate number of admissions to hospital for IHD/angina Prescribing patterns (Use of beta blockers and lipid lowering drugs) 	
Management of heart failure (ICD i 50) <ul style="list-style-type: none"> Proportion of patients with heart failure who are on ACE inhibitors Avoidable hospitalizations for heart failure (ICD i 50) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for heart failure Aggregate number of admissions to hospital for heart failure 	
Management of depression (ICD F32) <ul style="list-style-type: none"> Aggregate number of referrals to hospital outpatients for depression Aggregate number of admissions to hospital for depression Ratio of antidepressants to benzodiazepines 	

Comprehensive care is a range of services appropriate to the common problems in the population available at the primary care level. In addition to managing acute and chronic illness PHC should provide health education, promotion and prevention services. (Table 10)

Table 10. Effectiveness indicators: Comprehensiveness — Health Promotion and Prevention

Indicator	Source
Children: Primary prevention / promotion services <ul style="list-style-type: none"> • % immunisation coverage rates in children for BCG, DTP+OPV, Measles Mumps Rubella (MMR) 	HIF
Women: Primary prevention / promotion services <ul style="list-style-type: none"> • % of pregnant women whose full antenatal care is provided by the FP • % of mothers breastfeeding at 3m and 6m • % coverage for cervical smear in women aged 20-60 	

Co-ordination is a role by which primary care acts to co-ordinate other specialist services that the patient may need. (Table 11)

Table 11. Effectiveness indicators: Coordination

Indicator	Source
<ul style="list-style-type: none"> • % PHC Team involved in local planning with acute level and social service sector 	MOSA

4.3.4. Choice and responsiveness

This intermediate indicator focuses on the extent of choice users have in deciding which providers they wish to use and when. The measures relate to availability of providers, proportion of users who have 'chosen' their providers rather than allocated to them and the availability of consultation. (Table 12)

Table 12. Indicators for Choice and Responsiveness

Indicator	Source
Choice of provider : Proportion of users who have 'chosen' their FP	MOSA
<ul style="list-style-type: none"> • Availability: Contact hours, out-of hours care, telephone consultation availability, geographic coverage, emergency ambulance service availability 	

4.4. Goals

The evaluation framework identifies three goals for health systems: health, satisfaction and financial protection

There have been a number of evaluations focusing on satisfaction.⁴⁶ Undertaking new surveys or studies to identify user satisfaction is beyond the scope of this study. Instead, the findings of these studies and routine datasets were used in the analysis – for instance the regular user surveys undertaken by the Health Insurance Fund and the robust data collected by the statistical office. (Table 13)

Table 13. Goal indicators

Indicator	Source
Health Outcomes Life expectancy, IMR, MMR	MOSA, Statistical Office, Surveys
Satisfaction <ul style="list-style-type: none"> • % of patients satisfied with services • % of patients aware of the available services 	
Financial Protection: Out of pocket payments <ul style="list-style-type: none"> • Proportion of health expenditure that is out-of-pocket 	

5. Coordination and Data Sources

5.1. Project co-ordination

The project coordination group in Estonia comprised of Deputy Minister of Health and Social Affairs Dr Katrin Saluvere, WHO Liaison Officer Dr Jarno Habicht, Director of Health Services Dr Agris Koppel and the consultant Dr Rifat A. Atun. Dr Nata Menabde led coordination from the WHO European Regional Office.

The evaluation drew on the expertise of Ms. Kaja Polluste, Prof. Margus Lember, Dr Arvi Vask, Mr Marek Seer, Prof. Heidi-Ingrid Maroos, Dr Madis Tiik and Dr Ruth Kalda.

5.2. Data sources

Several data sources were accessed for the study including:

- a. Ministry of Social Affairs: General Health Care Statistics
- b. Statistical Office
- c. Health Insurance Fund Database: activity data on general practice, hospitals and pharmaceuticals
- d. Household Surveys from Statistical Office: Reports in English
- e. Social Inequalities in Health in Estonia - Kunst and Habicht
- f. Surveys :
 - EMOR surveys of 1000 adults – from 1999, 2000, 2001, 2002 and 2003.
 - Biennial health behaviour among adult population survey 2002
 - Statistical office surveys

5.3. Qualitative research

In addition to secondary data sources primary research using qualitative method of inquiry was used. A total of 35 key informants from several levels (including the MoSA, Health Insurance Fund, Tallinn City Health Department, Regional Health Department, University of Tartu, five family physicians from urban and rural family practices, Estonian FM Association, Estonian Nursing Association, Emergency ambulance services and Estonian Health Board) were interviewed in two stages, first using a proprietary semi-structured interview and second using a topic guide which allowed in-depth exploration of some of the themes that emerged from the first set of interviews. The list of those interviewed is appended in annex 2.

6. Changes in organisation and legal environment for primary care

Prior to the independence, the Estonian Primary Health Care System was based on the Soviet Semashko model. PHC services were mainly provided in polyclinics and health centres owned by the municipalities.

There was no specialist training in family medicine and the specialty did not exist. Instead, the health centres were staffed by medical graduates without postgraduate or specialist training. Polyclinics were staffed by therapists, paediatricians, gynaecologist and sub-specialists such as ophthalmologists and ENT surgeons.

Primary care level did not effectively perform a gate keeping function but instead acted as a referring point to specialists. Gatekeeping function was further compromised by the citizens who bypassed PHC level altogether and directly access ambulance, emergency and specialist services — the latter in dispensaries or hospital outpatients. Consequently, the doctors who worked at PHC level had low status and pay as compared to specialist.

6.1. Key regulatory changes

Following independence, PHC reforms were introduced in 1991. The reforms aimed to develop a family medicine centred PHC system and establish family medicine (FM) as a medical specialty. In 1993, family medicine was designated as a medical specialty — the first Post Soviet country to do so. New postgraduate training programmes were introduced, including a three-year residency programme for new graduates and an in-service training programme for retraining of specialists who were working in PHC – especially therapists and district paediatricians. (See section on training of Family Physicians) Initially the uptake of training was low — due to a lack of incentives in family medicine and the unfamiliarity of the subject area. However, this lack of interest changed with the health reforms introduced in 1997 which required Estonian citizens to register with a family physician and entitled family physicians to become independent contractors and provide general medical care (Boxes 1 and 2). These reforms also awarded a special fee to doctors who were trained as family medicine specialist and certified as family physicians. As independent contractors, family physicians were able to contract with the HIF to provide primary health care services to their registered population and be remunerated according to a new mixed payment system comprising capitation, fee-for-service, a basic practice payment and additional allowances. (See financing and provider payment systems)

Box 1. Key Milestones in development of PHC

- In 1991, University of Tartu (Medical Faculty) started re-specialization courses for family practitioners
- This specialty officially recognized in 1993
- From 1998, almost 400 primary care doctors started to work as private independent or joined practitioners
- Estonian health policy states that by 2004, the optimum number of Family Practitioners has to be 840-850
- Financing of primary level medical aid mainly based on capitation fee system (introduced Jan, 1, 1998)

Box 2. General Medical Care as defined in law

General Medical Care is defined in legislation as 'out-patient health services which are provided by family physicians and health care professionals working together with them'

- Primarily provided is by family physicians – who have practice by lists
- Professional registration and duties of family physicians governed are by Health Care Board
- Family physicians enter into contracts with Estonian Health Insurance Fund.
- Contracts detail terms of reimbursement. For insured persons: services paid for by Insurance Fund according to agreed contractual obligations with limited cost sharing by patients – majority of population (94%) are insured. Uninsured persons pay themselves
- Family practice can be as sole proprietors or companies (general partnerships or limited partnerships) - legal entity. These entities may only provide general medical care, social services and engage in teaching and scientific research in health care

There are three main legislations governing health care. The Health Services Organization Act (enforced from 1 Jan 2002) provided for organization of and requirements for provision of health services and procedures for management, financing and supervision of health care. The Act defined responsibilities of family physicians and the regulations surrounding the practice of the specialty. (Box 3)

Box 3. Key points from The Health Services Organization Act

Family Physician:

- Is a specialist and practices on the basis of practice list or as a specialist without a practice list. Service area is an area of a local government determined by county governor

The practice list:

- Is defined as a list of persons looked after by a family physician. Each physician has one list.

- Residents (legal) covered by insurance have right to register on a list – may change physician by written application

- List comprises registered persons and those determined by county governor (permanent residence)

- Minister of Social Affairs establishes maximum number of persons on list, basis and procedure for compilation, amendment and comparison of lists; approves maximum number of practice lists by counties and establishes work instructions of family physicians and payment procedure for care to persons not on a list

- A physician has to apply to the county governor for the right to compile a list

- The county governor conducts a public competition (according to the process established by the Minister of Social Affairs) in order to grant the right to a physician to compile a list

Financing:

- Physician has contractual agreement with Estonian Health Insurance Fund (see annex with contract)

- Insured persons – General Medical Care services are paid by health insurance, administered by the Estonian Health Insurance Fund

- Uninsured has to pay for herself.

Other primary care aspects covered by this Act:

- Registration requirements, proceedings and certification for health care professionals as well as conditions under which physicians may be deprived of right to practice.

Duty to disseminate information:

- The County Governor has to inform Health Care Board of details of physician after granting right to practice

- Physicians are required to inform Health Care Board of any changes in practice staff/address

- Physician has to prepare reports on health care statistics and economic activities and submit to county governor.

The Health Insurance Act (enforced from 1 Oct 2002) (Box 4) defined the eligibility criteria for health insurance and outlined the scope and operational mechanisms for Estonian Health Insurance Fund.⁴⁷

Box 4. Box 4: Summary of The Health Insurance Act

The Health Insurance Fund Act (2000, enforced 2001) regulates solidarity based health insurance — who is eligible, how it works, benefits, database protection, conditions/restrictions for receipt of benefits, contract terms with Fund and providers, risk reserve terms etc.

System covers health care expenses to finance disease prevention and treatment of and purchase of medicinal products and medical devices for insured persons (non-cash health care benefits)

Cash benefits include benefits for temporary incapacity for work, adult dental care benefit, travel expenses benefit, supplementary benefit for medicinal products.

Limited cost sharing, compulsory insurance:

- Additional fees (above cost-sharing and obligation of Fund) are defined as visit fee (including home visit) and in-patient fees not paid by Fund. These fees include a visit fee of 50 EEK for a visit to a specialist and a fee for inpatient days which is 25EEK per inpatient day up to ten days. At PHC visit fees are not allowed, with the exception of home visits where a visit fee of up to 50EEK can be charged

The insurer is defined as the Estonian Health Insurance Fund.

Insured persons choose a regional unit of fund to join. Fund may also join in financing projects specifically aimed at health promotion limited to amount set out for this purpose.

List of health services covered by HIF is based on a proposal of Minister of Social Affairs – agreed with the HIF – and contains: a) Name, code, reference price of service; b) Limits of payment obligation by Fund and extent of cost-sharing by patients and; c) Extent of cost sharing should not be greater than 50% of the reference price of a service.

The procedure for the assumption of obligation to pay by fund and calculations of payment established by regulation of Minister of Social Affairs based on a proposal from board of the HIF.

Estonian HIF enters into contract (under public law) for financing medical treatment with health care providers. The HIF is not required to enter into contracts with all health care providers and has the right to enter into contracts with providers in foreign states.

The Act contains details of calculations of prices and benefits.

The third key legislation is the Estonia Health Insurance Fund Act which covers objectives, functions, competence, legal status, bases for activities and bodies of the Estonian Health Insurance Fund. It outlines how the HIF is managed and governed, how it is audited, and specifies limits for legal reserves.⁴⁸

Primary care reforms were rolled out rapidly in all regions except for the capital Tallinn, where the heads of polyclinics supported by Tallinn Municipal Health and Social Care Department resisted change and advocated retention of polyclinics with salaried doctors.

By 2001, there were 557 family physicians trained as specialist in family medicine — and by 2004 this number reached over 900, including primary care physicians retrained and those trained in the residency programme, and enough to cover all of Estonia.

6.2. Organisation of PHC

The Health Services Organization Law of 2002 established the regulatory framework for primary care and family medicine whereby primary care is organized as the first level of contact with the health system and provided by independent family physicians — who are contracted by the Estonian HIF and paid according to the number of patients registered on the list (according to a weighted per capita payment system) and fee-for-service. (See section on payment of family physicians). By 2003, all the family physicians working in Estonia had a patient list and a contract with the HIF.

To be eligible for selection as a FM practice member and to enter the competitive selection process to secure a contract (with a county) a family physician needs to be certified as a FM specialist. However, a county governor may set additional requirements to a family physician applying for the right to establish a practice list. These requirements are influenced by the characteristics of the practice premises and the service area. The competition for a vacant practice/position is announced in at least one national newspaper one month before the closing date for submitting necessary documentation to the county governor. The competition for selection is held in three rounds: i) document round, ii) interview round and iii) assessment round. The candidate is selected by a competition committee which is established by the county governor and which includes county government officials and the authorised representatives of the Estonian Society of Family Physicians, local government(s) of the service area of the family physician and the Estonian HIF.⁴⁹

The regulations specify that a practice list size should be around 1600 ± 400 persons. However, this number may be altered by the county governor in cooperation with the Estonian HIF, taking account of the characteristics of the region.⁵⁰ The MOSA regulations specify the maximum number of FM practices that can be established in each county.⁵¹

In 2004, the average list size was around 1,600 but this number ranged from 1,200 to 2,000. Once the upper limit of 2,000 persons is reached the practice can be divided into two practices by the county governor. However, once the 2,000 patients limit is exceeded, a practice can hire a new doctor. Apart from this, the FM practices have no flexibility in determining human resource requirements. The county governor has the power and obligation to announce competition for the new patient list if 2,000 patients is exceeded or if a position becomes vacant. The system has shortcomings as the practice and the FPs are penalized for attracting patients beyond 2,000.

The patients are free to choose their family physicians with which they register, and can change their FP when they wish. On receipt of an application to register a

family physician can register the person in the practice list. Parents apply on behalf of their children below the age of 16 years. A person can identify a representative to apply on their behalf. Within seven days of applying, the family physician notifies in writing the person applying for registration of the decision to accept or refuse. The family physician can refuse to register a person when their list size has reached the maximum number specified in regulations. Otherwise, unless there are justifiable reasons, a family physician should not refuse to register a person whose family member(s) are already registered in the practice list. A family physician is entitled to refuse to register a person who does not permanently reside in the practice service area.⁵²

The service area of a family physician is determined by the county governor. The family physician is expected to provide necessary general medical care to persons residing or temporarily staying in this area — even if they are not registered on the practice list of the family physician.

The regulations specify in detail the scope of services for family physicians and family nurses.⁵³ (Annex 3) The tasks for the family physician are defined in the regulations as:

- a. health promotion and disease prevention by assessment of health risks, physical examination, individual health education, medical counselling, immunisation and medical screening tests;
- b. diagnosis of diseases and treatment of patients;
- c. referral of a patient to active care or nursing care – in cooperation with specialist doctors, nurses, midwives, social workers and local governments;
- d. preparation of documents related to certification of provision of health care services and practice list of the family physician;
- e. preparation of reports on health care statistics and economic activities for health care and submission of these to the county governor;
- f. arranging appropriate administrative arrangements as specified in law.

The tasks also include details on consultations, home visits and continuing medical education of minimum 60 hours per year. The regulations specify a minimum of 20 hours per week for consultation for the family physician, with one evening clinic per week. In addition there are home visits and emergency consultations. On average family physicians work 48 hours per week. The regulations require the reception to be open between 08.00 and 18.00 hours every working day and the practice premises of the family physician to be open at least eight hours each working day.⁵⁴

All family physicians are required to work with at least one family nurse. This is necessary to receive payment from the HIF. However, there is a shortage of trained family nurses, who have better employment prospects in other part of the health sector, different industries and the neighbouring countries. The scope of services for the nurses working in family health is also specified in the regulations.⁵⁵ (Annex 3) The tasks for the family nurse are defined as:

- a. monitoring of the physical and mental development of a healthy baby/child; performance of periodic physical examinations;
- b. educating of parents and family and counselling on the hygiene, care, physical activity, disease prevention and diet of a child;
- c. counselling of patients on family planning and sexual health;
- d. monitoring of normal pregnancy, counselling of pregnant women on diet and physical exercise, preparation of a future mother and father for delivery, motherhood and fatherhood;
- e. monitoring of the health of the elderly, educating the elderly to cope with their health and age-related problems;
- f. ordering and proper discarding of vaccines and keeping records of and time schedule for immunisation, and immunisation;
- g. determination of the need for nursing care and preparing a nursing plan, provision of outpatient and home based nursing care;
- h. management of waste disposal.

The family nurse is expected to have at least 10 hours a week of independent consultation with patients and have to undertake continuing professional development of 60 hours duration each year.⁵⁶

The regulations specify in detail which services and investigations should be provided by the family physicians according to the contract with the HIF. The regulations detail the services covered by the per capita payment as well as the services that attract a fee beyond the per capita pay.⁵⁷ (Annex 4)

The Law also specifies 'Minimum Practice Standards' as regards the structure and size of the facilities as well as the equipment, which the family physicians need to have in the practice.⁵⁸ (Annex 5) The Health Care Board, HIF and county councils monitor family practices on a regular basis to ensure these criteria are fulfilled.

By law, PHC providers have ownership of the data on patients and are not obliged to send medical records of a patient to another FP if the patient changes practice. Instead, a short summary is sent.

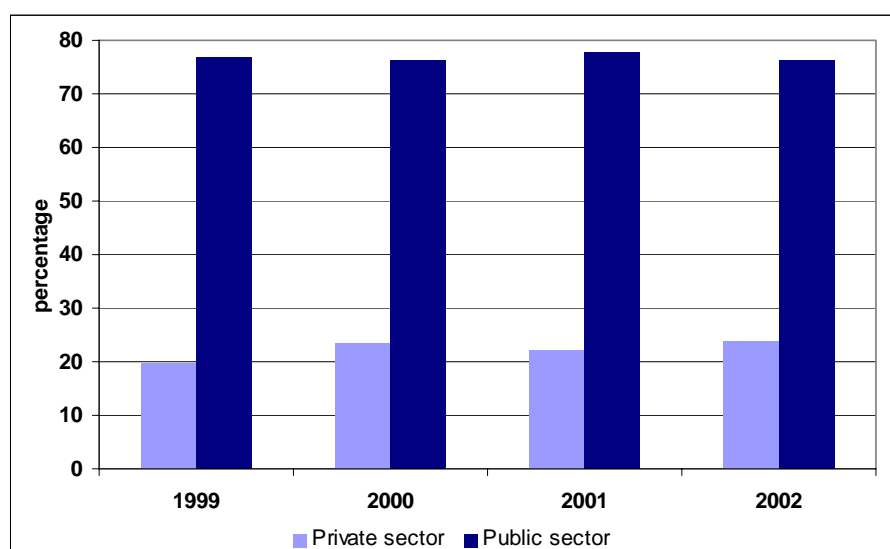
Family physicians use ICD 10 coding for diagnosis. Health services use universal personal national ID numbers.⁵⁹

Very few family physicians doctors work purely on a private basis due to excellent coverage of the country by the family physicians contracted by the HIF and the high quality of PHC services provided.

7. Changes in Health System Financing

Estonian health system is financed from different sources — public and private sources. The public sector financing accounted for 76.3% of the total health expenditure in 2002 while that for the private sector was 23.7%. (Figure 3)

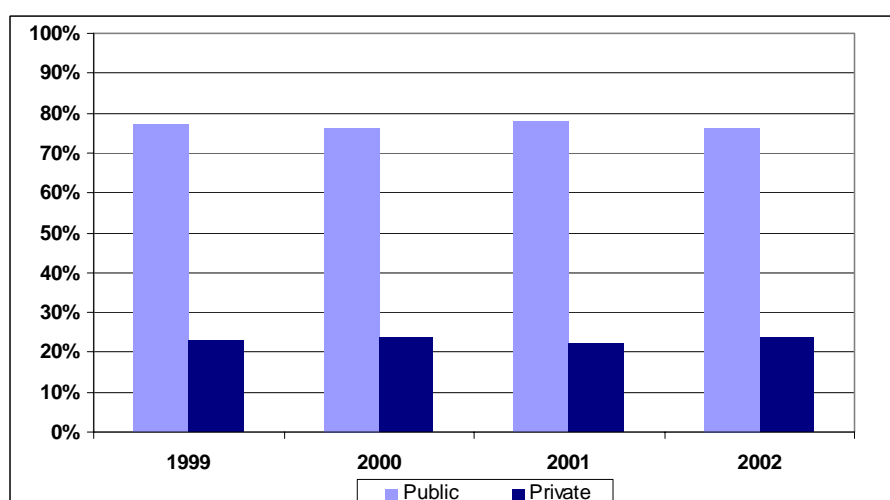
Figure 3. Financing Sources for Health Expenditure 1999-2002



Source: Ministry of Social Affairs, National Health Accounts

In the period 1999 to 2002, the proportion of total health expenditure funded from the public sources (State Health Insurance, state budget, local government) ranged between 76.3% and 77.8% of the total. (Figure 4)

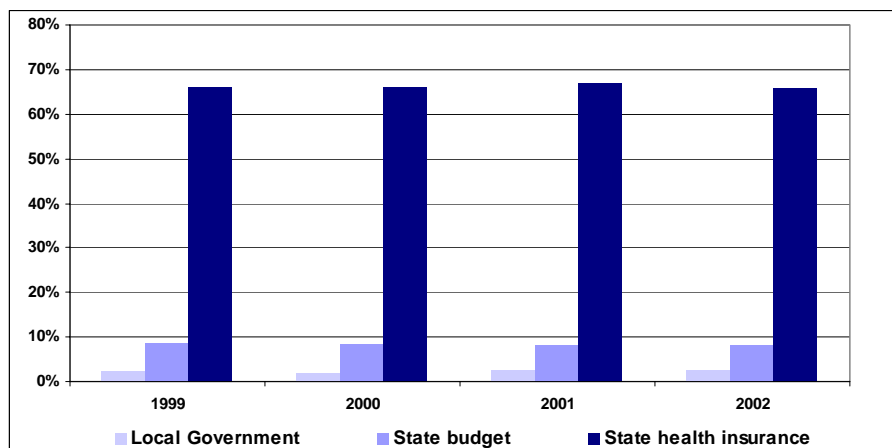
Figure 4. Sources of income for health financing



Source: Social Sector in Figures, MoSA, 2003

In this period (1999-2002) the bulk of the public sector financing was from health insurance revenues (65-67%) with State contributing around 8-9% of the total in form of transfers through MOSA. (Figure 5)

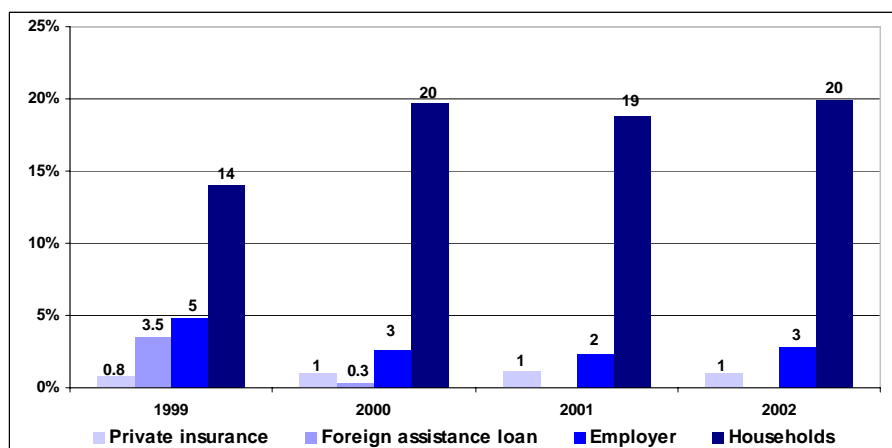
Figure 5. Public Sector Financing Sources between 1999 and 2002 (as a Proportion of the Total Health Expenditure)



Source: Social Sector in Figures, MoSA, 2003

Between 1999 and 2002 the private sector element of the health expenditure ranged from 20% to 23.7% in 2002. (Figure 4) This increase was largely accounted by an increase in household expenditure. In this period the foreign financial assistance in form of loans for the health sector declined from 3.5% of the total health financing to zero. (Figure 6)

Figure 6. Sources of Private Health Expenditure as a % of the Total Health Expenditure 1999-2002.



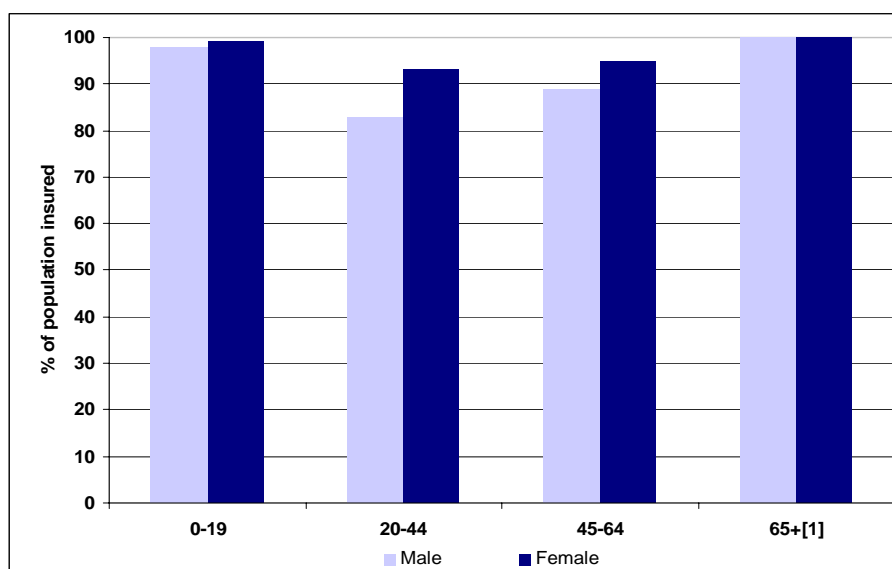
Source: Social Sector in Figures, MoSA, 2003

In 2002, around 94% the population was covered by health insurance. (Figures 7) This number has increased from 93% in 1999. This is a very high figure by regional standards. There is small regional variation in coverage levels which range from 92.2% to 96.4%, with the highest coverage in Harjumaa, the capital

area. The variations relate to different socio-economic structures of the regions, such as long-term structural unemployment. The health insurance also covers certain population groups who do not contribute but are entitled to the same benefits as the actual contributors. These groups include:

- Pregnant women from the twelfth week of pregnancy
- Children and adolescents under 19 years of age
- State pensioners
- Citizens who are five years from pensionable age and who are maintained by their spouses – who themselves are insured
- Students up to 24 years of age in any educational institution or for medical reasons any other form of study at higher education institution

Figure 7. Proportion of the total population (as a % of the total) covered by health insurance (by age-groups) in 2002



Source: EHIF Annual Report 2003

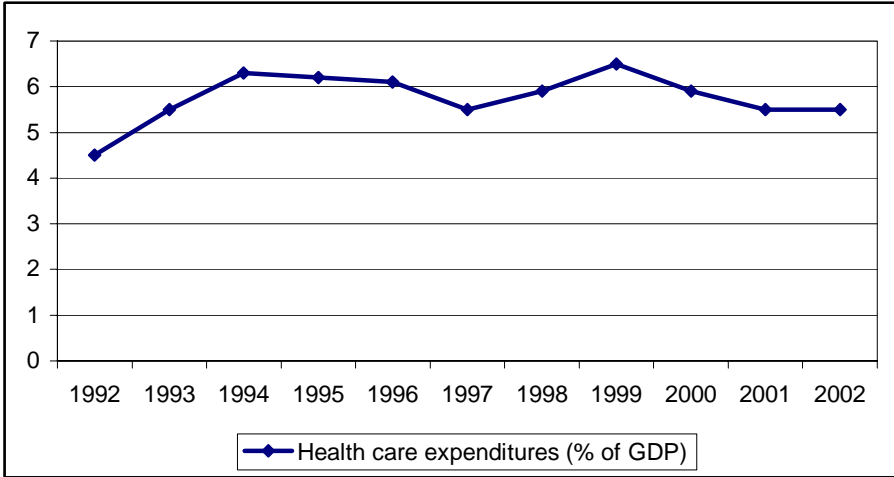
7.1. Health Expenditure trends

In the period 1992 to 2001, in nominal terms, health expenditures increased over tenfold. In the same period the health insurance budget increased from 439 million EEK in 1992 to 4.4 billion EEK in 2001.

The total health expenditure as a percentage of GDP increased from 4.5% in 1992 to 5.5% in 2002, a level below the EU Member States average of 8% of GDP but similar to the levels spent by the 10 new EU Member States and post-Soviet republics.

In 2000 and 2001, the increase in HIF expenditures on health care services was lower than the annual inflation rate. Consequently, the health service expenditures as compared with the 1999 level did not change significantly. (Figure 8)

Figure 8. Total Health Care Expenditure as a % of GDP



Source: Ministry of Social Affairs, European Observatory HIT Estonia 2000

8. Resource allocation and provider payment systems

The HIF budget is approved annually by the HIF Supervisory Board – with representatives of the State, employers and employees. The budget allocations are determined by legislation and on the priorities set for the coming years. HIF is obliged by the law to reimburse ambulatory care services, pharmaceuticals and provide payment for sick-day and maternity benefits. Beyond these, allocations to different sectors of health services are prioritized. For instance, between 1998 and 2002 allocations to family medicine had a higher growth rate than that for narrow specialists and hospital care.

There are four HIF departments. Budget allocations to the four HIF regional departments are made on a per capita basis – according to the number of insured in the region. Two studies undertaken by the HIF in 1994 and 1998, which explored how weighting would influence resource allocation, concluded that simple per capita allocation would be more equitable than allocation which took into account service utilisation patterns – as the utilization levels are higher in urban areas as compared with rural regions.

Regional departments have some flexibility in re-allocating available funds between specialist services, long-term care and dental care. Budgets of regional departments are approved by the Management Board of HIF. Provider contracts are planned at the regional level by the HIF regional departments.

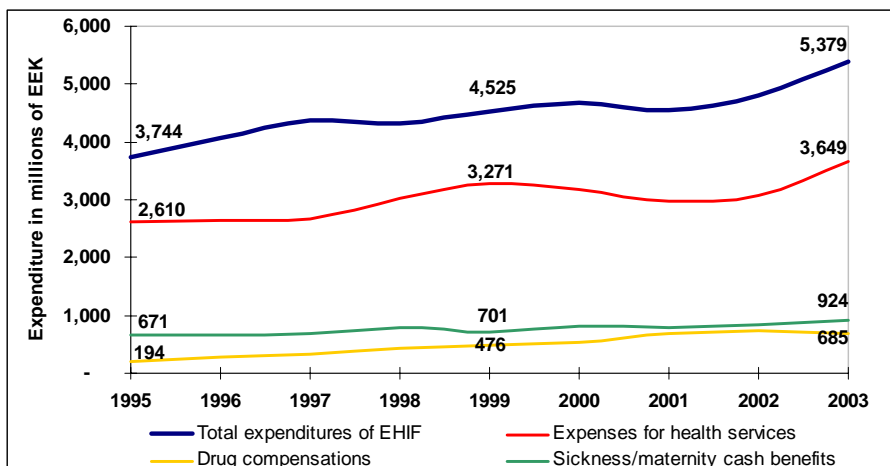
The Ministry of Social Affairs prepares an annual budget proposal for the health sector and submits this to the government. The Ministry of Finance sets budget ceilings for each ministry, based on legal obligations, approved state programmes and government priorities. The Ministry of Social Affairs, receives budget proposals from organizations funded by the state budget, and other institutions which are partly supported by the state budget. As the MOSA is responsible for three sectors of labour, health and social affairs internally within the MOSA there is competition for funds.

MOSA administers around 93% of the state budget allocated to health care. This budget pays for ambulance services, emergency care of uninsured, national disease prevention programmes, health care development programmes and running costs of the Ministry. The Ministry of Defence pays for primary care services in the military and Ministry of Justice pays for the health care of prisoners. Capital investment is the responsibility of provider institutions which are autonomous but there is central control retained over investment decisions of public hospitals.

8.1. Allocation of Health Insurance Fund resources

The HIF allocated most of its resources to payment for health services, pharmaceuticals and cash benefits for maternity and sick leave. (Figure 9)

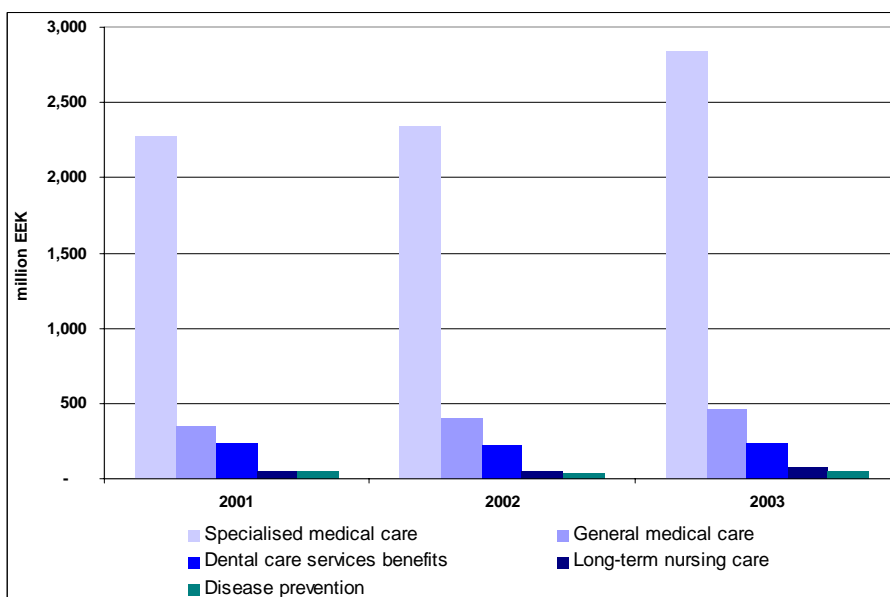
Figure 9. Total expenditure by Estonian HIF and health insurance benefits (In EEK at constant prices CPI Base=100, 2003)



Source: Health Insurance Fund, Estonian Statistical Office; EHIF Annual Report 2003

In 2003, the expenditure on General Medical Care (PHC) was EEK 455 million accounting for 14% of total health expenditure (THE). Specialist services accounted for 77% and dental services for 8% of the total. Relatively small share (1%) of the expenditure is allocated to health promotion and disease prevention activities, although the HIF is increasing investment in these areas. (Figure 10) The expenditure for PHC is lower than that in other EU countries (20-45% of total) but the figure does not take into account visits to the specialists who work in primary care level and to whom the patients have direct access without a referral from a family physician.

Figure 10. Expenditure by category as a proportion of total health expenditure (millions of EEK in 2001-2003)



Source: EHIF Annual Report 2003

Expenditure on pharmaceuticals in 2003 comprise about 22-23% of the total. Around half of this expenditure is met by the HIF and the rest paid out of pocket by citizens. Between 2000 and 2001 pharmaceutical expenditures increased by 33%. In the 1990s, in volume terms, per capita use of prescription-only pharmaceuticals doubled.

8.2. Hospital Payment System

Health care providers are contracted and paid by the Estonian HIF. Until 2004, the payment for hospitals was based mainly on a fee-for-service system. The payment was according to prices and a list of services established by the Estonian HIF. The price-list was introduced from the German health system and modified, taking into account Estonian context and cost structures. Prices, which take into account of capital costs of different providers, are set for around 1,800 service and updated annually and approved by a Decree of the Minister of Social Affairs. The prices also include a fee for physician. Most physicians, excluding the self-employed, are employees of provider institutions and are therefore salaried.

Since the end of 1990s Estonian HIF has been strengthening its purchasing function by stipulating the range and volume of services by specialty and the average price of the services for each specialty group, assessing patients' needs (by needs assessment) and monitoring waiting times. The prices for hospital services, long term care and primary care are adjusted to include capital costs. Cost sharing has been introduced – enabling hospitals to introduce extra charges for visits and hotel services over standard level. A maximum level is set for visit fees (50EEK) and charges for bed-days (25 EEK per day for a maximum of 10 days).

Some case based payments were introduced in 1998 and in 2004, the Estonian HIF implemented a DRG system based on the NordDRG system already used by Norway, Sweden, Finland and Denmark.

In the Soviet period and immediately after the independence the health care professionals working in the health system were salaried public employees – with a salary level determined centrally. All hospitals and primary care units were owned by the State or local governments. In the 1990s, Estonian health reforms separated planning, purchasing and provision functions. Strategic planning was retained by the MOSA, contracting and purchasing devolved to the newly established Estonian HIF and the provision delegated to hospital and primary care providers. Hospitals were established as autonomous juridical bodies, with own boards which were accountable to the State and the local governments. In 1992, following the introduction of health insurance and establishment of autonomous providers, health care professionals ceased to be public employees. Hospitals have since been able to negotiate salary levels with own employees through local bargaining. Hospitals have contracts with the HIF to provide services. Primary care units became independent contractors managed or owned by family physicians which agreed contracts with the HIF.

The reforms transformed the Estonian Health System from a public-integrated health system to a public-contract system — where the relationship between the purchaser (HIF) and the provider (hospitals and family physicians) is based on contracts rather than direct ownership. Consequently, all health care provider organizations and health care professionals now have individual contracts – either with the HIF or the employing organization. The contracts between the HIF, hospitals and the health professionals are often guided by agreements reached by professional/trade associations, the HIF and the MOSA. The trade organisations and associations for health care professionals (Estonian Medical Association, Estonian Nurses Association, Trade Union Association of Health Officers of Estonia Estonian Hospital Association or Estonian Family Medicine Association) engage in discussions with the HIF and the MOSA to agree intended remuneration levels and the prices for health care services. The personnel who work in hospital-based outpatient and inpatient care services have contracts with the hospital and are hence salaried employees. The salary levels in different hospitals and for different specialties vary – determined by the demand and supply conditions and the hospital management.

8.3. Provider Payment System in Primary Care

Until 1998, primary care services were provided in polyclinics and ambulatories owned by the municipalities and funded through the HIF contracts based on a fee-for-service system. Since 1998, family practitioners have been established as independent providers with contracts with the HOF and the payment system changed from a fee-for-service to a mix of capitation, fee-for-service and allowances. In the first years of the reforms the internists and paediatricians were also allowed to practice as family practitioners but family physicians certified as specialists were paid an additional fee.

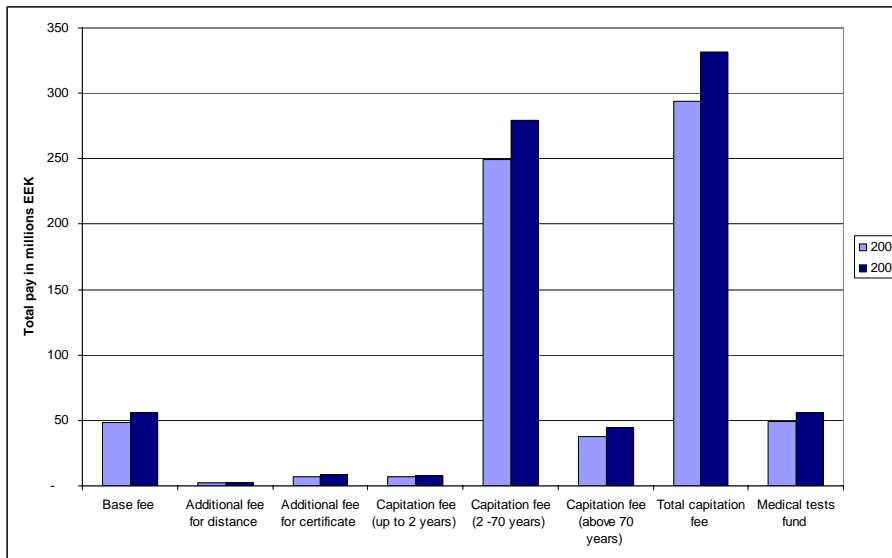
In 1999, the simple per capita payment system was changed to a weighted per capita with weightings for age groups of 0-2 years, 2-70 years and over 70 years. The payment to family physicians until April 2004 consisted of four elements: (i) a basic monthly allowance, provided to cover the costs of investment in the practice; (ii) per capita payment, weighted according to age groups; (iii) payments for provision of general medical care that includes, an advance payment of basic practice fee, additional payment for certified family physicians and a payment for location, and; (iv) fee-for-service element, up to a maximum of 18.4% of the capitation payment. This includes payment for investigations and interventions not included in the per capita pay package. The procedures reimbursed by fees-for-service are agreed by the EHIF and the Association of Family Doctors and included in the price list. As family physicians become more experienced these procedures change over time. (Table 14 and Figure 11)

Table 14. Payment of family physicians (in EEK), 1998-2003

Payment category	1998	1999-2000	2001	2002	2003
Capitation per person per month (in EEK):					
▪ 0-2 years	15	20	20.80	23.90	27.55
▪ 2-70 years	15	16	16.60	19.10	21.05
▪ over 70 years	15	18	18.70	21.50	24.60
Fee-for-service (maximum % of the capitation sum)	-	18	18	18.4	18.4
Basic monthly allowance	5000	5000	5000	5290	5290
Additional monthly payments:					
▪ being 20-40 km from a county hospital	700	700	700	700	700
▪ being over 40 km from a hospital	1400	1400	1400	1400	1400
▪ family physician certification	1000	1000	1000	1000	1000

Source: EHIF

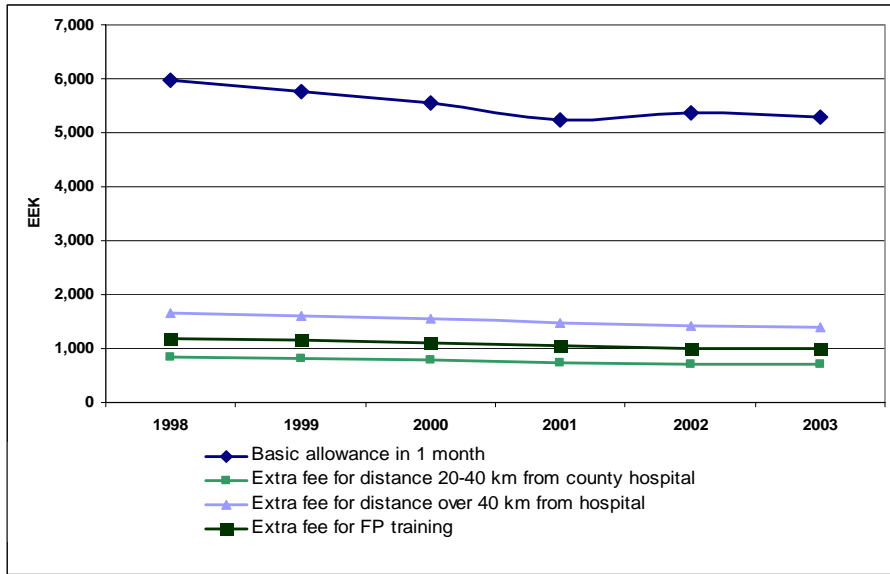
Figure 11. General medical care payments to family physicians by category



Source: EHIF Annual Report 2003

In the period 1998 to 2003, at current prices, the monthly payments for the basic practice fee have not changed significantly with some increase in the basic allowance. However, when calculated at constant prices (using a CPI deflator) the monthly fee levels for basic practice fees have actually declined. (Figure 12)

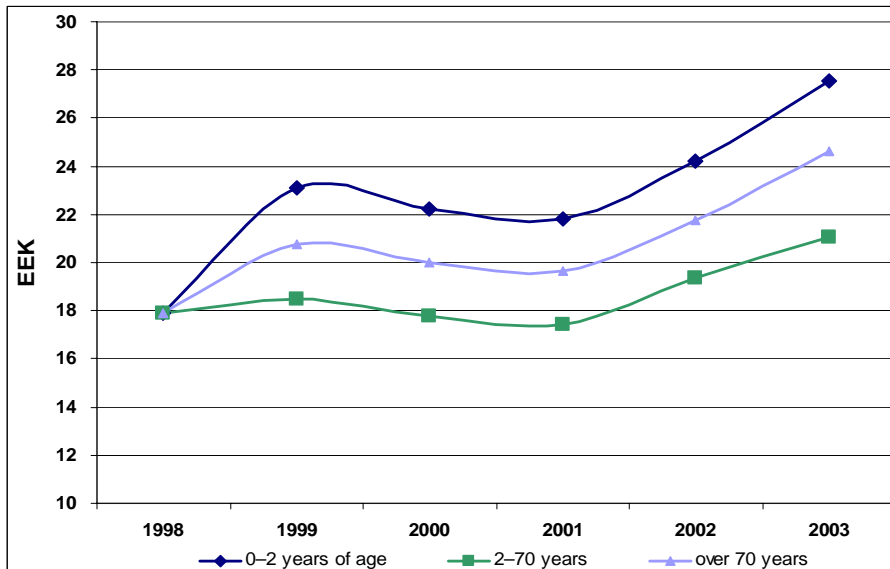
Figure 12. Monthly fees for family practitioners (In EEK at constant prices, CPI Base=100, 2003)



Source: EHIF (modified from data obtained from HiT draft 2004)

In the same period, the monthly capitation fees at constant prices have increased significantly for all three age groups – clearly signalling that the payments will depend on the number of patients registered and performance. (Figure 13)

Figure 13. Monthly capitation fees for family practitioners (In EEK at constant prices, CPI Base=100, 2003)



Source: EHIF (modified from data obtained from HiT draft 2004)

The HIF separately pays for ambulatory care services delivered by the specialist, on a fee-for-service basis according to a contract, the total value of which is capped. The fee is payable for a consultation, which includes history and examination, diagnosis, initial treatment, prescriptions, recommendations for

health promotion and disease prevention, completing medical documentation, simple medical treatment like bandages or injections, first line laboratory tests. Additional laboratory tests or treatment measures are billed separately, and in addition to the consultation fee, according to prices set by the service price-list. Bills to HIF funds are submitted by case and not by visit. Private providers are entitled to charge additional costs to the patient, over an above the price paid by the HIF.

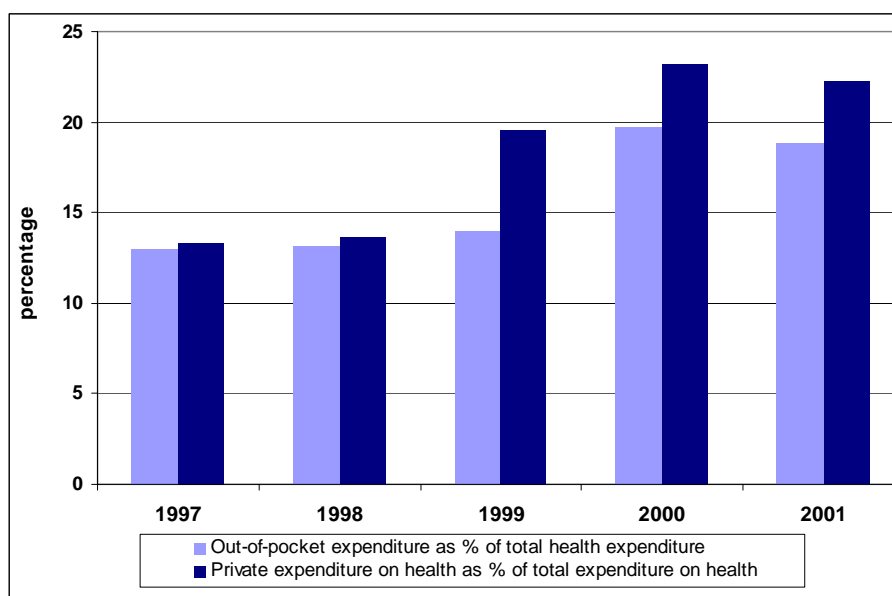
In PHC, the income from the HIF is used by the family physician to meet the practice running costs, purchase of equipment, cost of essential diagnostics, and for remuneration of the employed staff (such as nurses or administrative staff). The surplus is used to remunerate the family physician.

8.4. Cost sharing and out-of-pocket expenditures

Private health expenditures comprise user charges, direct payments for medical services (e.g. dental care) and over-the-counter expenses for pharmaceuticals and paid by households, employers and private insurance companies.

Since 1997 out of pocket (OOP) (excluding private insurance payments) and private health expenditures (OOP+ private insurance payments) have been rising steadily and in 2001 respectively accounted for 19% and 22% of the total health expenditure. (Figure 14)

Figure 14. Private and out-of-pocket expenditures as a percentage of total health expenditure (1997-2001)



Source: National Health Accounts and WHO.

Pharmaceuticals and dental care accounted for a large proportion of the OOP expenditure (53.6% and 25% of the total respectively).

Official user fees and cost sharing has been gradually introduced into the health system for pharmaceuticals, primary and secondary care. In 1995, a visit fee of 5 EEK (0.3 Euro) was introduced for ambulatory care visits to hospitals and primary care for use of providers contracted by the HIF. Pensioners, disabled persons, children and adolescents under 19 years of age were exempted from this fee. Private providers were allowed to set their own visit fees for private consultations. This encouraged many doctors to establish their own private practices – especially in dentistry and other ambulatory specialities. Some public institutions established as foundations or joint-stock companies also chose to operate within the provisions of the private law and set their own top-up fees for ambulatory care. For hospital care, co-payments were introduced for hotel facilities beyond standard provision.

In October 2002, the Health Insurance Act was revised to introduce cost-sharing and consistently regulate all providers contracted by the HIF, independent of their ownership structure. The Act established categories for cost-sharing, fee levels and exemptions. (Table 15)

Table 15. Cost-sharing for health care services in 2003

Type of care	Cost-sharing	Exemptions
Primary care	Visit to office – no fee	
	Home visit – fee up to 50 EEK (3.2 Euro)	No exemptions
	Reasonable fee for certificates and documents for driving license etc	No fee for prescriptions, sick-leave certificates, documents for disabled status and needed for medical care
Specialist ambulatory care	Visit fee – up to 50 EEK (3.2 Euro)	No exemptions
Hospital care	Co-payment for inpatient bed-day – up to 25 EEK (1.6 Euro), for a maximum 10 days per illness episode	Children, pregnant women, patients in intensive care units
	Co-payment established by provider for above-standard accommodation	
	Co-insurance in some medical procedures as established in the Benefit Catalogue <ul style="list-style-type: none"> - abortion - medical aids - IVF treatment 	
“Queue-jumping”	Full cost of the service	

Source: Draft Estonia HIT 2004

For PHC, there is no visit-fee for the consultations with family physician or family nurse in the practice. For home-visits, the family physicians have the right to set a fee – with a maximum ceiling of 50 EEK (3.2 EURO) per visit.

The Law enabled narrow specialist which provide ambulatory (outpatient) care to set a visit fee with a maximum ceiling of 50 EEK (3.2 EURO) for services contracted by the HIF – but with no exemptions. Subsequently, many narrow specialists set visit fees for consultations in emergency rooms. This created public dissatisfaction and led to amendments to the Law to exempt children and pregnant women from visit fees and emergency care.

The revised Health Insurance Law entitles hospitals to charge up to 25 EEK (1.6 EURO) per bed-day for inpatient care (limited to 10 days per illness episode) except for intensive care, children's services and admissions during pregnancy. Hospitals can set 'hotel' fees for 'above-standard' accommodation (such as for a private rooms or a television). The hospitals can also charge full-fees for 'queue jumping' to avoid waiting lists.

The Health Insurance Law was revised to introduce cost-sharing to appease hospitals, which claimed under-funding and argued that co-payments would reduce 'unnecessary' care or hospitalization. However, the Estonian Family Medicine Association also supported the introduction of cost-sharing, demanding fees be introduced for visit to FP clinics to reduce 'unnecessary' visits. This request was declined by the Parliament – supporting the principle of free access to 'primary general care.' A survey commissioned by the HIF in 2002-3 showed that a fee of 25 EEK (1.6 Euro) would deter 38% of insured from attending FP clinic to seek care. The same survey found that a home visit fee of 50 EEK would deter 51% of insured and 25 EEK for 22% from requesting home visits.

Studies in 1998 (by the HIF) and 2002 (by OECD) show that unofficial (under-the-table) payments are not common in Estonia – paid by less than 1% of health service users.

9. Changes in Health Service Provision

9.1. The scope of services and the contract for family physicians

The contents of a basic contract are agreed by the Estonian HIF and the Estonian Association of Family Doctors. Before the start of each calendar year, the HIF branches enter into contractual agreements with family physicians individually or as a group. The contract is revised twice a year to reflect changes in patient lists.

Family physicians are responsible for diagnosis and treatment of common health conditions, health education, health promotion, disease prevention, and common diagnostic procedures. (See Annexes 3 and 4)

Partial gate keeping was introduced as part of the PHC reforms. Family physicians exercise gatekeeping function and control most access to specialist care. Generally patients need a referral from the FP to see a specialist and be admitted as an inpatient (except for acute emergency cases when ambulance services may be used). Patients are able to access specialists directly without a referral from a family physician in case of a trauma, a chronic illness, tuberculosis, eye disease, dermatological or venereal disease, gynaecological or psychiatric illnesses.

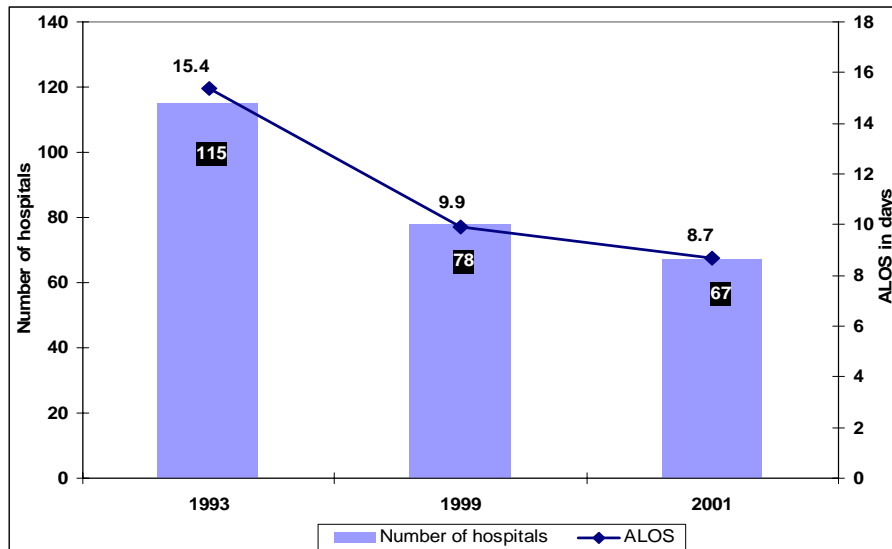
9.2. Evidence based guidelines

Since the mid 1990s, around 100 treatment guidelines have been introduced, in collaboration with EHIF and Estonia FM Association, to improve the quality and consistency of care delivered. These cover key conditions in PHC. The guidelines are usually prepared following detailed discussions with medical specialities and are usually based on best developed practice, but given the resource constraints the uptake is highly variable.

9.3. Hospital rationalisation

Estonia has been particularly successful in achieving a planned and orderly downsizing of the hospital sector. The optimization of the hospital capacity was implemented according to the 'Hospital Masterplan 2015' – which enabled incorporation of hospitals, under private law, as foundations (trusts) or joint stock companies allowed hospital mergers and contracting with the HIF. Between 1993 and 2001, the number of hospitals declined from 115 to 67 (Figure 15), while the number of hospital beds were reduced from 14,400 to 9,200. In the same period, the average length of hospital stay declined from 15.4 to 8.7 days. (Figure 15)

Figure 15. The number of hospitals and average length of stay



Source:EHIF-www.eurasiahealthtransitionconference.org/presenteng/PaluEng.pdf

In 2001, in Tallinn, the Estonian HIF had 17 hospital contracts– by 2002 this number had declined to four.

The target of 'Hospital Masterplan 2015' is to reduce the number of hospitals in Estonia to 14 (from 115 in 1993), the number of hospital beds to 3,500 (from 14,377 in 1993) and the average length of stay to four (from 15.4 in 1993).

10. Resource Generation in Primary Health Care

10.1. Training of Family Physicians

Training in family medicine began at the University of Tartu in 1991-1992. A Department of Family Medicine was established at the University in 1992. The Department has developed four family medicine programmes: (i) Undergraduate; (ii) residency; (iii) retraining programmes for family medicine, and; (iv) Training of FM Trainers.

The Department is research active and employs adult teaching and learning methods using a network of teaching practices with newly trained family physicians as preceptors.

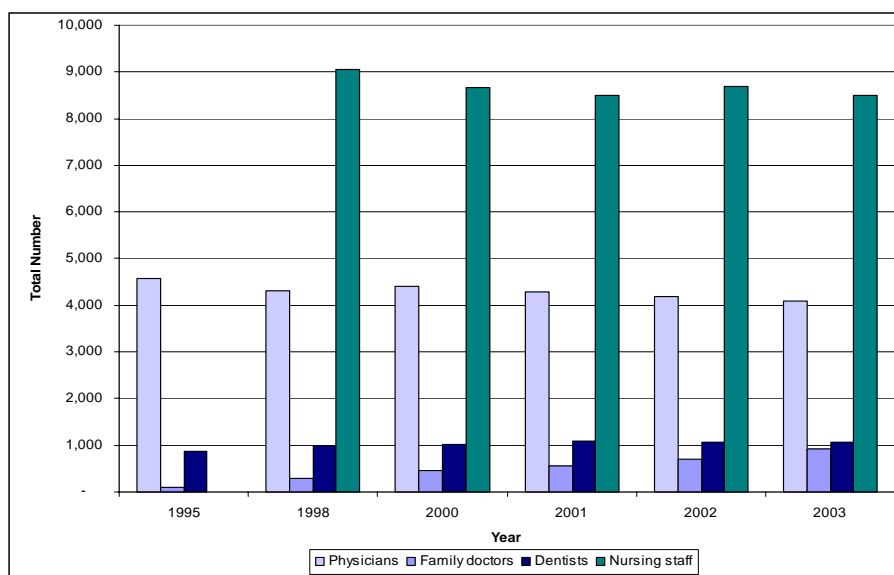
The residency programme for Family Medicine started in 1993. A residency is defined in Estonia as a three to five year professional training for a doctor who has graduated from the basic training and who wants to obtain the profession of a specialist. Entry to residency programmes is by public competition with an entrance examination. The residency training for family physicians is three years. At least 50% of the training is dedicated to family medicine practice with around 10 % consisting of theoretical parts. The training programmes utilize advanced teaching materials including a manual in family medicine as well as problem-based interactive computer-based programmes. Between 1993 and 2003 the Department has trained and successfully graduated 45 family medicine residents who were awarded the Certificate of Family Physician. There are a total of 90 government-sponsored residency positions and the University for all the medical and surgical specialities. In 2003 there were 24 FM residents and in 2004 there were 15. The University has established a very good network of training practices to train the residents. Teaching practices are paid by the University for training FM residents and medical students.

A 'Retraining Programme' is also offered to physicians who are working or have previously worked in primary care setting. The retraining programme is three years in-service training and around 80% of this time is independent work in practice complemented by theoretical part comprising lectures and seminars, which account for 20% of the training. There is attendance of one-week per month at the university (for a period of nine months) amounting to 27 seven weeks in total. This is supplemented by three weeks training at the workplace. In the period 1991 to 2003, 863 physicians were retrained as family physicians and awarded a specialist certificate.

The content of the training is designed to take into account population health care needs, local epidemiology, the job description of a family physician in Estonia, the socio-demographic structure of the Estonian population, and health care priorities. The training programme includes components on preventive, curative and palliative care; practice management; team working; legal aspects of independent practice, and; IT skills.

In Estonia, there are currently 3.18 doctors and 6.06 nurses employed per 1,000 residents. The number of doctors per 1,000 population is in line with OECD average, but the rate for nurses is much lower than that observed in the OECD – in 2000, the average number of doctors in the OECD countries was 2.9 per 1,000 people and that for nurses was 8.2. (Figure 16)

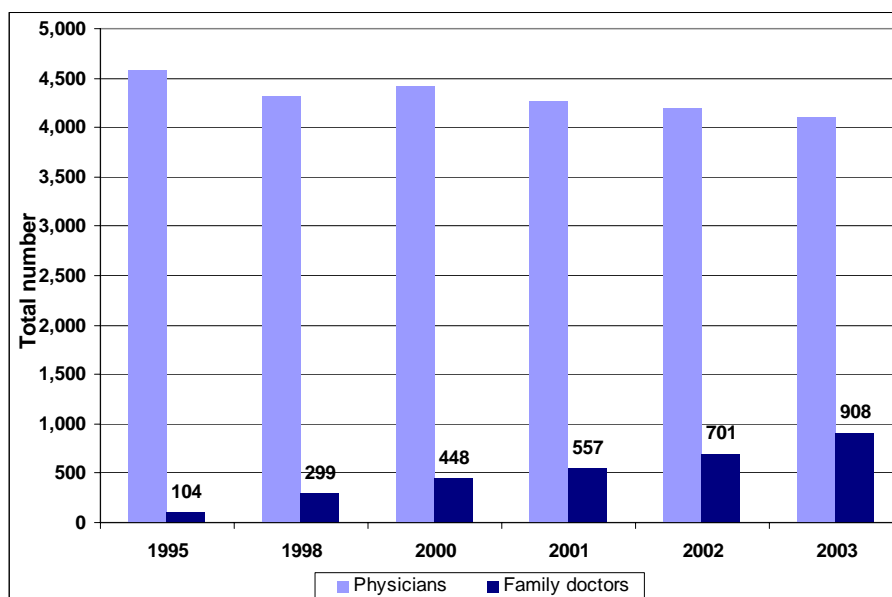
Figure 16. The numbers of health personnel 1995-2002



Source: Social Sector in Figures, MoSA 2003

MOSA determines manpower requirements and the number of places for residencies and has set a target of 3 doctors and 8 nurses per 1,000 people. Each of the 33 specialties has a development plan. In addition there is a development plan for hospitals. In line with these targets, the number of physicians in Estonia has been gradually declining but the number of specialist in family medicine have increased to over 900 in 2003, enough to cover all of Estonia. (Figure 17)

Figure 17. The numbers of doctors and family physicians (1995-2003)

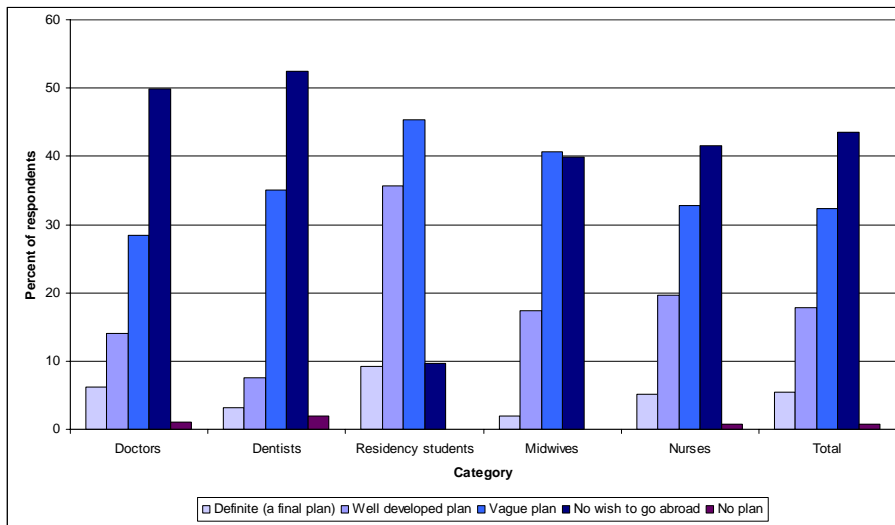


Source: Social Sector in Figures, MoSA 2003

Since 1995, the total number of nurses has declined by about 2,000. There is a shortage of nurses in primary care and in particularly a lack of specialist nurses in family health. (Figure 16) To address this shortage the University of Tartu has introduced a new postgraduate programme for nurses. After 3.5 or 4.5 years of basic education, nurses will be able to join a specialist Masters Degree programme to specialize in family health nursing or in other areas such as mental health nursing or nursing management.

Emigration remains a problem. A study in 2004 exploring the extent of emigration and the attitudes of health workers to emigration found that 5.4 % of Estonian healthcare workers had a definite wish to work abroad and a further 18% had a well developed plan to do so.⁶⁰ The figure was higher in family physicians: 6.2 % of whom had definite plans and 14.1% had well-developed plans to go abroad. For nurses, 5.2% had definite plans and a further 19.7% had well-developed plans to emigrate abroad to work. The responses of the Residents are of real concern: 9.2% had definite plans to work abroad and a further 35.7% had well-developed plans. (Figure 18)

Figure 18. Health professionals' plans regarding work abroad

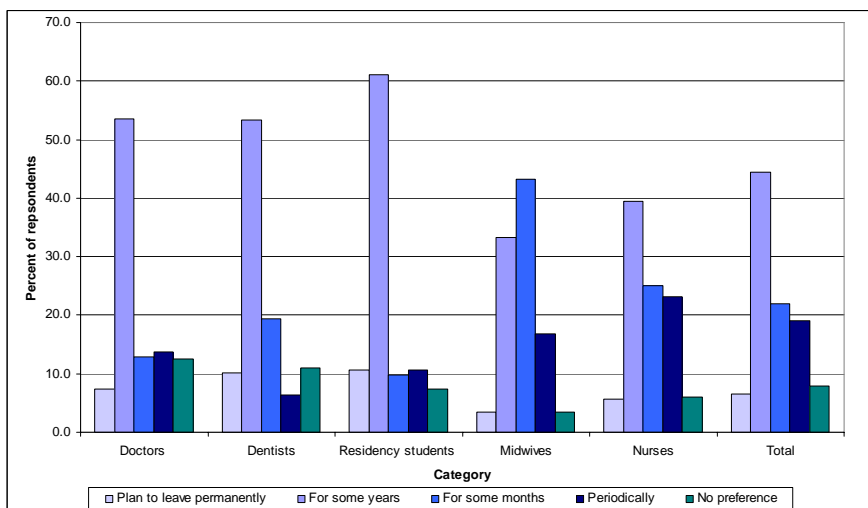


Source: Vörk et al. 2004.

These figures are similar to the levels seen in the other ten new EU Member States.⁶¹

Around 7% of family physicians and 6% of nurses who planned to work abroad wished to leave permanently, but the figure was higher for residents at 11%. However, over 50% of doctors and residents planned to leave for 'some years' but this figure for nurses was 40%. (Figure 19) Better pay (27.1%), better working conditions (15%), better quality of life (11.1%) and opportunity to gain experience (11.6%) were the most frequently cited reasons for wanting to work abroad.

Figure 19. Planned time period for work abroad



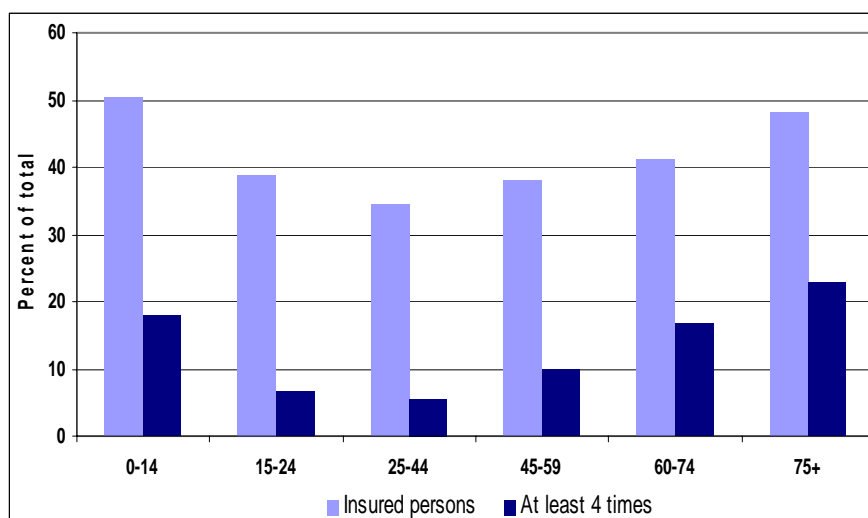
Source: Vörk et al. 2004.

11. Equity in primary health care

11.1. Access

In 2000, almost 40% of the population visited a family physician with higher utilization levels for younger and older age groups. (Figure 20) There was no significant difference in the utilization levels by gender.

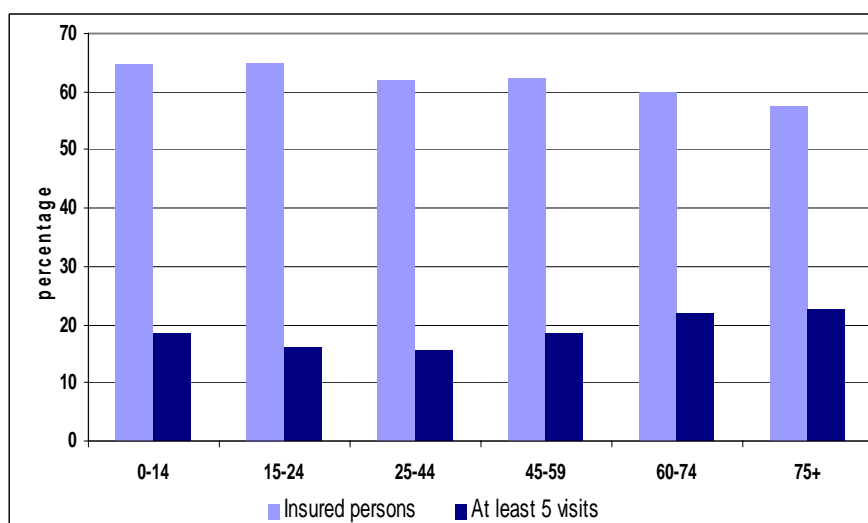
Figure 20. Proportion of insured visiting a family physician in 2000



Source: Social Inequalities in Health in Estonia, Technical document, WB-MoSA 2002

Around 60% of those surveyed, visited ambulatory care (outpatients).

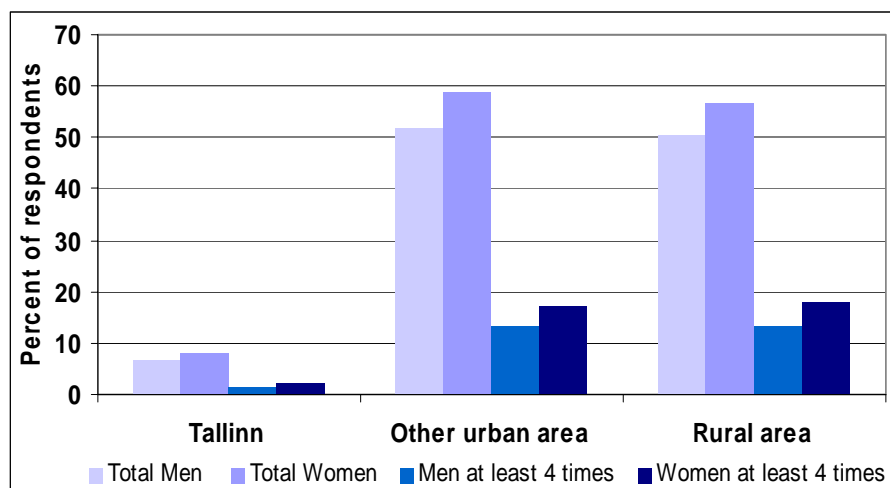
Figure 21. Proportion of insured persons who visited ambulatory care in 2000



Much of this difference can be explained by the delayed roll out of family medicine to the capital city and the citizens from Tallinn insured with the HIF not visiting

family physicians but instead visiting ambulatory (outpatient) care to see narrow specialists directly accessible to them. (Figure 22)

Figure 22. Proportion of insured persons (urban and rural) who have visited ambulatory care in 2000



Source: Social Inequalities in Health in Estonia, Technical document, WB-MoSA 2002

In 2003, 100 % of the insured were able to access a family physician within 24 hours and 98% were seen within the scheduled appointment time.⁶²

11.2. Accessibility

The contract with the HIF stipulates that family physicians should have at least 20 visiting hours a week and their practices should be open for at least 8 hours a day. In primary care patients should be able to see their family physician on the same day for acute problems; patients with chronic conditions have the right to see their family physician within three days.

Access, accessibility and quality of primary care are monitored by the Ministry of Social Affairs and the Estonian HIF. Telephone surveys, based on random samples of family physicians – including a third of family physicians in each of the four regions – are carried out quarterly by the Estonian HIF. These surveys show that, in 2002, all patients with acute problems could access their FP the same day and 97% of those who needed to consult their family physician because of a chronic problem were able to do so within three days – around 27% the same day, 34% the next day and 39% on the third day.

Since 1999, the Estonian HIF has commissioned regular health care satisfaction surveys.⁶³ The results of these surveys are published the HIF website. According to the most recent survey carried out in November 2003, over 90% of people living outside Tallinn and 83% living in Tallinn knew their family physician by name – indicating that family physicians are accessible and provide continuity of care.⁶⁴ Overall, 88% of those who had visited their family physician were satisfied with the service and the share of satisfied patients had risen by an additional 6% since

1999 and by an additional 9% since 2001. However, the system of partial gate-keeping is not yet well accepted by the population – only 41% of patients expressed preference to be referred to a specialist by their family physician, almost 37% of patients wanted to be able to visit specialists directly (although the number of such patients has decreased by 6% in 2003 compared with the figure in 2002) and 21% preferred to find the specialist themselves.⁶⁵

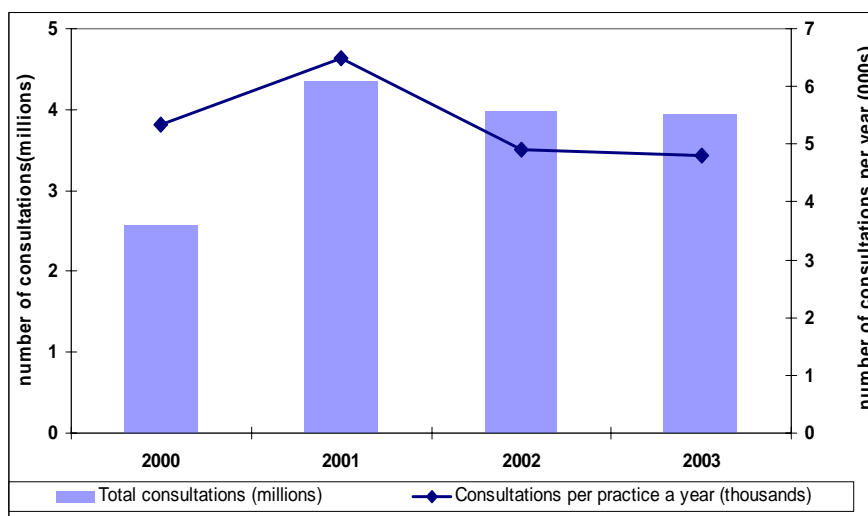
Accessibility of family physicians is very good – more than 80% of patients surveyed in 2003 were able to see their family physician on the same day and only 7% of patients waited for more than five days. Compared to the period 2001-2002, the number of patients seen on the day of attendance has decreased – as has the number of patients waiting for more than five days.⁶⁶

The same survey showed that over 90% percent of patients were able to see their family physician within four days of making an appointment.⁶⁷ However, 11 % of those who attempted to visit a doctor did not get an appointment, a similar level that was observed in the 2002 survey. The main obstacle to getting an appointment with a family physician and a specialist doctor cited in most cases was long waiting lists. About 48 % of those who visited a family physician in the year preceding the survey got an appointment the day of contacting their family physician, and a further 33% got an appointment for the next day or day after the next. Compared to the results obtained in the 2002 Emor survey, the number of persons who got an appointment the same day has dropped by 12 %.⁶⁸

11.3. Utilization of PHC

The total number of consultations for general medical consultations increased from around 2.57 million in 2000 to 3.94 million in 2003 – an increase of almost 53%. The number of consultations per practice per year declined from 5,336 in 2000 to 4,799 in 2003 – reflecting increased number of family physicians and consequent decline in list size per family physician.⁶⁹ (Figure 23)

Figure 23. General Medical Care Consultations

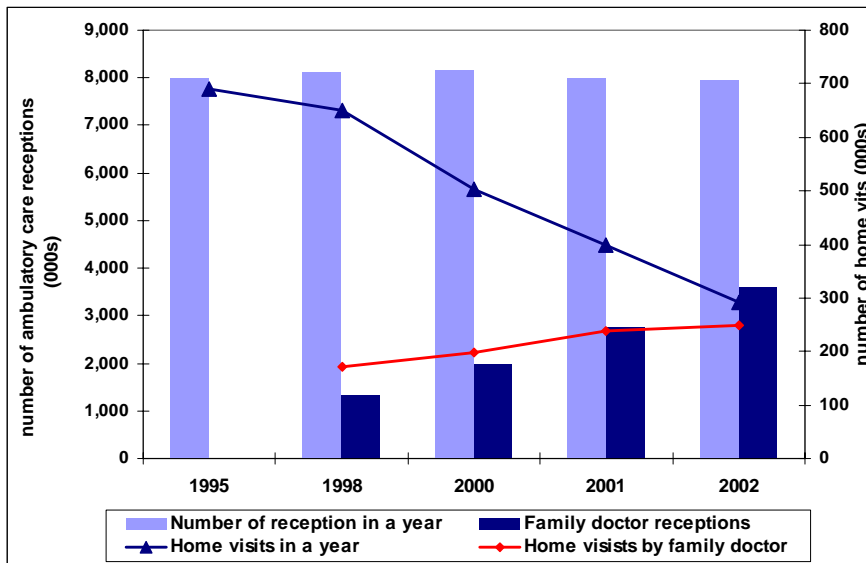


Source: Estonian Health Insurance Fund Report 2003.

In the period 1995 to 2002, the number of home visits by the family physicians as a proportion of the total home visits by all providers increased. By 2002, almost all home visits were undertaken by the family physicians. In this period, the total number of home visits declined from over 600,000 to just over 200,000 – the decline can be attributed to increased use of telephone consultations by the family physicians to substitute for home visits.

Similarly, in the same period, the number attendances at family medicine centres clinics as a proportion of all ambulatory care attendances increased from almost none in 1995 to around 45% of the total in 2002. In this period the total number of ambulatory care visits remained constant at around 8 million per year. (Figure 24) The figures show a clear substitution effect by family medicine – an effect which can be attributed to improved gate keeping and care management functions of family medicine units.

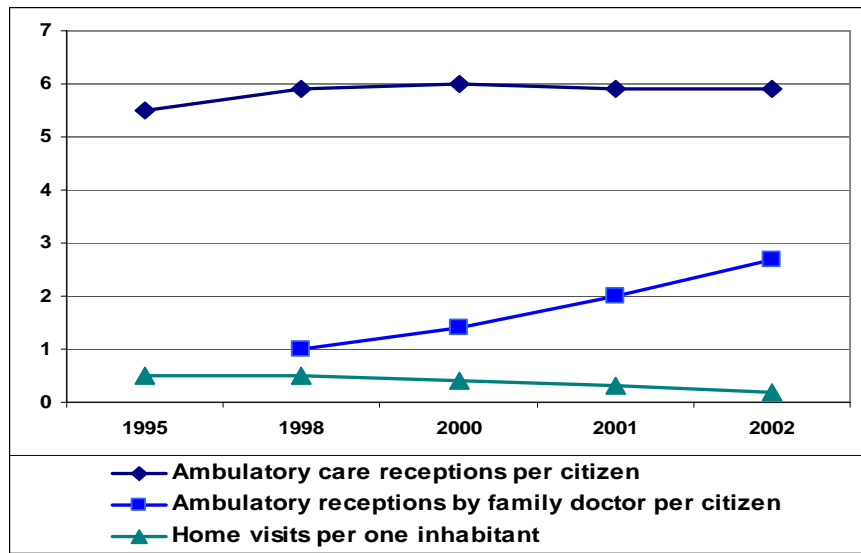
Figure 24. Number of visits to ambulatory care, family physician, and home visits



Source: Social Sector in Figures, MOSA 2003

In the period 1995 to 2002, the number of ambulatory care service attendances per person increased from 5.5 to 6 per year while that for family physicians increased from one per person per year in 1998 to 2.7 per person per year in 2002. (Figure 25)

Figure 25. Ambulatory medical care services per person per year



Source: Social Sector in Figures, MOSA 2003

12. Changes in the efficiency of primary health care

We used the same parameters as those previously defined in a published study of allocative and technical efficiency and financial sustainability in Estonia.⁷⁰ The study had used data from 1997-1999 and by use of more recent data from 2000-2002 we extended the study by a further three years to cover a six year period.

12.1. Allocative Efficiency

For allocative efficiency, the study used the following parameters: (i) Number of doctors specialized in family practice; (ii) Number of family physicians per 10,000 inhabitants; (iii) Ratio of available vs. planned number of family physicians; (iv) Distribution of group (G) and solo practices (S) by number of family physicians working in family practice; (v) Distribution of group (G) and solo practices (S); (vi) Average size of a family practice patient list; (vii) Average size of a patient list in the solo practices; (viii) Average size of patient list in the group practices; (ix) Average number of family physicians in group practice; (x) Number of family nurses per family physician. (Table 16)

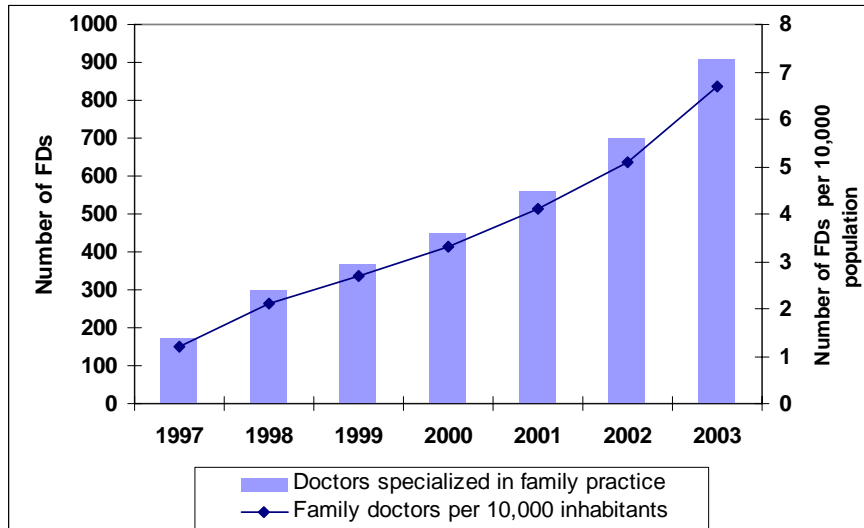
Table 16. Allocative Efficiency

Allocative efficiency	1997	1998	1999	2000	2001	2002
1. Number of doctors specialized in family practice (certified in current year/cumulative sum)	174	299	370	448	557	701
2. Number of family physicians per 10,000 inhabitants	1.2	2.1	2.7	3.3	4.1	5.1
3. Ratio of available vs. planned number of family physicians	22%	37%	46%	56%	69%	83%
4. Distribution of group (G) and solo practices (S) by number of family physicians working in family practice	-	51% G 49% S	-	38% G 62% S	44% G 56% S	61% G 39% S
5. Distribution of group (G) and solo practices (S)	-	17%G	14% G	13% G	16% G	28% G
		83% S	86% S	87% S	84% S	72% S
6. Average size of a family practice patient list	-	1654	1651	1603	1667	1570
7. Average size of a patient list in the solo practices	-	-	1554	1501	1540	1517
8. Average size of patient list in the group practices	-	-	1776	1615	1678	1585
9. Average number of family physicians in group practice	-	4.2	3.5	4.2	4.1	3.8
10. Number of family nurses per family physician	-	0.70	0.69	0.54	0.53	0.52

In the period 1997 to 2003, the number of specialist family physicians increased from around 170 to over 900. Similarly, the number of specialist family physicians

per 10,000 inhabitants increased from around 1.5 in 1997 to around 6.7 in 2003. (Figure 26)

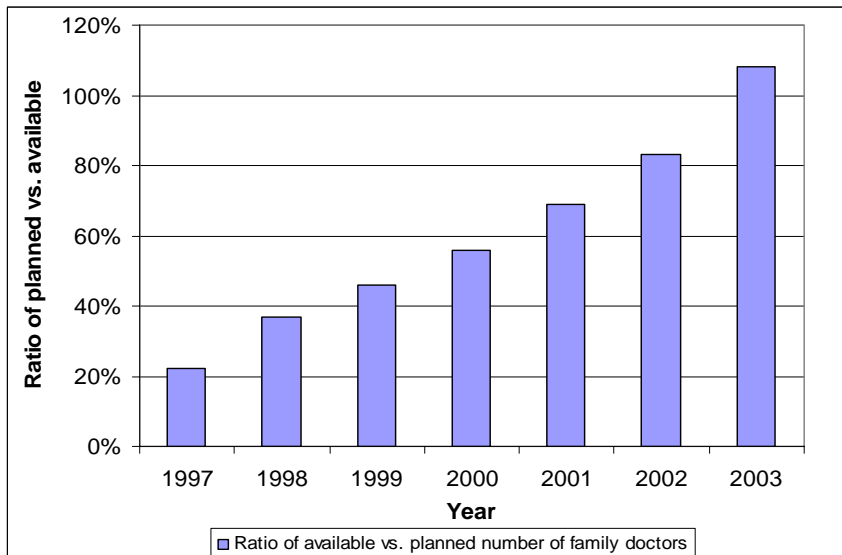
Figure 26. Number of Family physicians



Source: MOSA, University of Tartu, EHIF

The ratio of planned versus available family physicians increased from around 20% in 1997 to over 100% in 2003. The number of family physicians in Estonia is now sufficient to cover the whole population. (Figure 27)

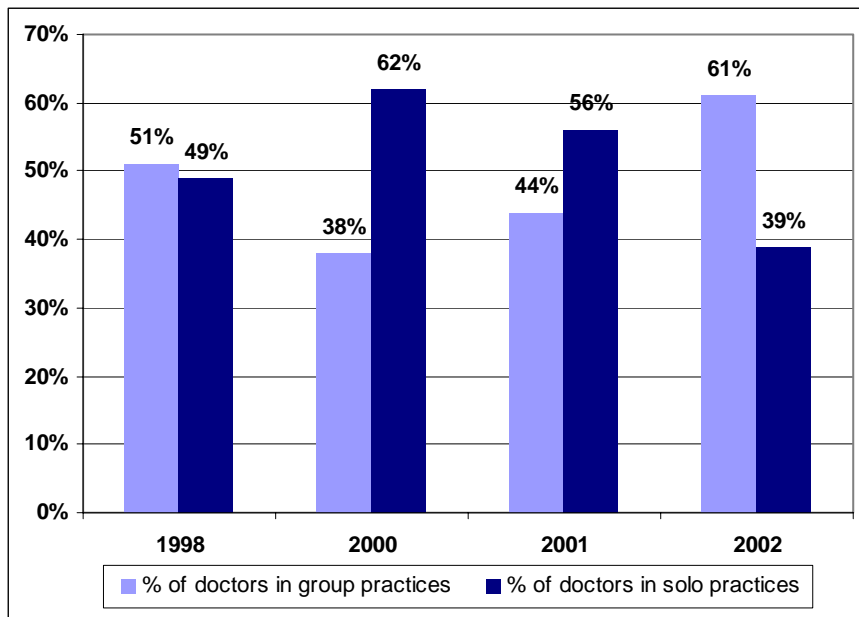
Figure 27. The ratio of planned versus available family physicians



Source: MOSA, University of Tartu, EHIF

In the period 1998 to 2002, the proportion of doctors working in group practices initially declined to 38% in 2000 then increased to 61% in 2002. (Figure 28)

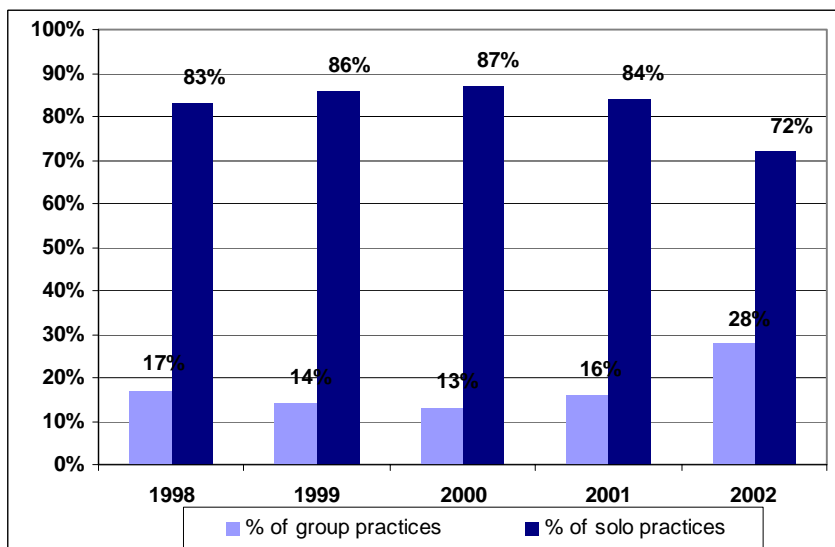
Figure 28. Number of family physicians in group or solo practices as a % of total



Source: MOSA, EHIF

In the same period the proportion of group practices increased from 17% of the total in 1997 to 28% of the total in 2002. (Figure 29) The consolidation of family physicians' practices towards establishment group practices is in line with other developed countries as the scope and scale of family medicine extends beyond gate keeping to increasingly managing and co-ordinating patient care – a shift that requires a critical mass of clinical and managerial knowledge and skills.^{71 72}

Figure 29. Proportion of Group and Solo Practices as % of Total

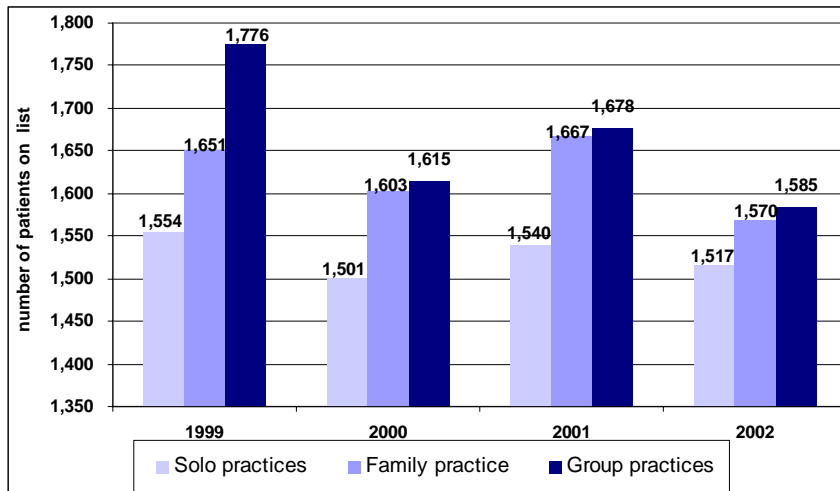


Source: MOSA, EHIF

The average list size per family physician declined from 1550-1800 in 1999 to 1500-1600 in 2002. This decline was most marked for family physicians working in

group practice where the reduction was from 1,776 in 1999 to 1,585 patients per family physician in 2003. (Figure 30)

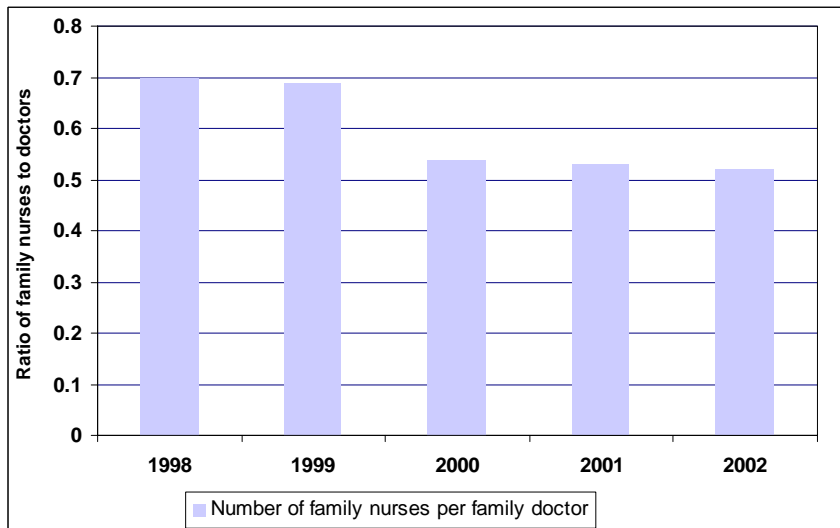
Figure 30. Average List Size per Family Physician



Source: MOSA, EHIF

The increase in the number of family physicians working in PHC is not mirrored by the increase in the number of family practice nurse. The ratio of the family nurses to family physicians declined from 0.70 in 1998 to 0.5 in 2002, a much lower figure than that observed in countries with advanced PHC system where the ration is nearer to one. (Figure 31)

Figure 31. The Ratio of Family Nurses to Family physicians



Source: MOSA, EHIF

12.2. Technical Efficiency

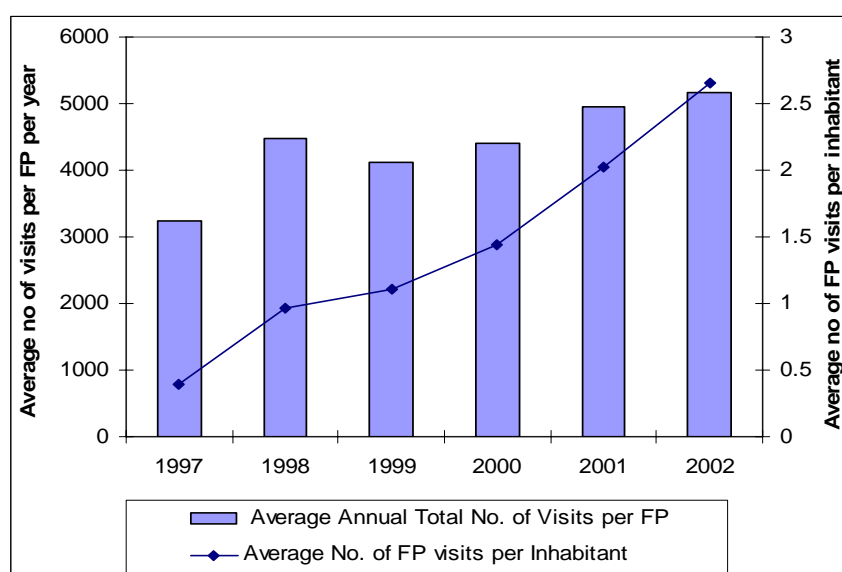
For technical efficiency we analyzed the following: (i) Average annual number of visits per family physician; (ii) Average annual number of family physicians visits per inhabitant; (iii) Average number of visits to family physician per person on practice list; (iv) The ratio of the number of family physicians' home visits to all visits; (v) Percentage of family physicians possessing complete equipment. (Table 17)

Table 17. Technical Efficiency Indicators

Technical Efficiency	1997	1998	1999	2000	2001	2002
1. Average annual number of visits per one family physician	3230	4471	4123	4402	4961	5156
2. Average annual number of family physicians visits per one inhabitant	0.39	0.96	1.11	1.44	2.02	2.66
3. Average number of visits to family physician per person in patient list	-	-	-	2.80	2.80	3.13
4. Ratio of the number of family physicians home visits from all visits	13.0%	12.7%	10.9%	10.0%	8.6%	6.8%
5. Percentage of family physicians possessing complete equipment	-	52%	-	-	-	-

In 1998, 52% of the family practices possessed complete equipment and by 2002 100%: as the contract with the HIF and the regulations of the MOSA specify which equipment should be possessed before a contract can be awarded. In the period 1997 to 2002, the average annual number of visits per FP increased from around 3,200 to over 5,000. The average number of visits per inhabitant increased almost seven fold from 0.39 in 1997 to 2.66 in 2002. (Figure 32)

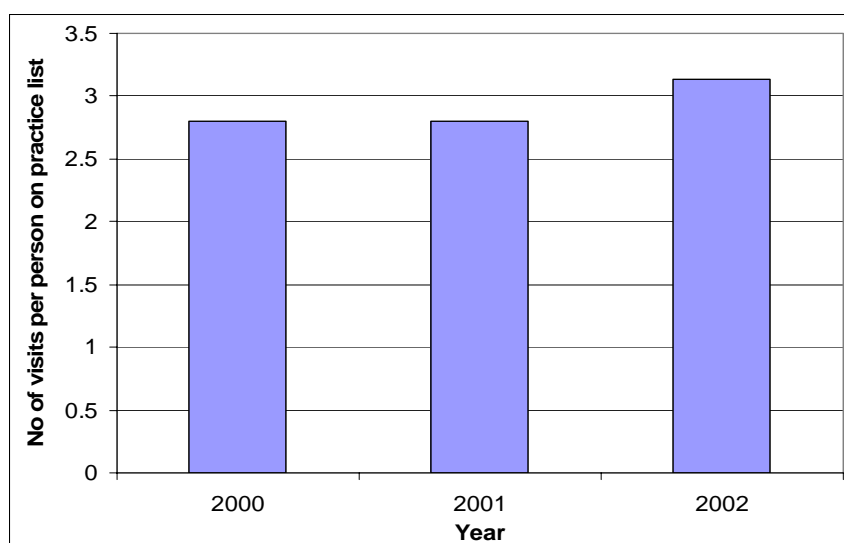
Figure 32. The average annual number of visits to FPs (total and per inhabitant)



Source: MOSA, EHIF

Between 2000 and 2002 the average number of visits by persons registered on the practice list increased from 2.8 in 2000 to 3.13 in 2002. (Figure 33)

Figure 33. Number of visit to family physicians per person on practice list



Source: MOSA, EHIF

12.3. Financial Sustainability

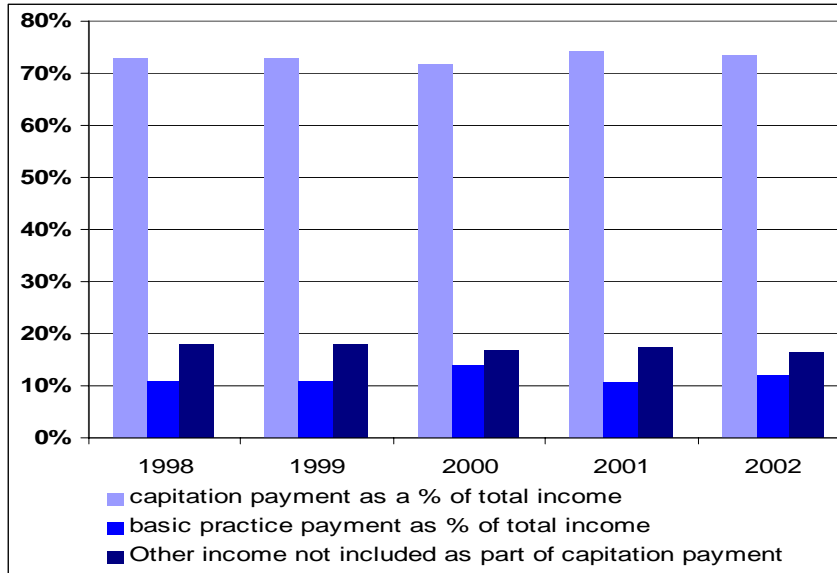
For financial sustainability five parameters were analysed: (i) Proportion of the family physician's budget from capitation; (ii) Proportion of the family physician's budget from basic practice payment ; (iii) % of expenditures on procedures and analyses separately paid for, and not included in capitation, in comparison with total capitation income; (iv) Share of PHC expenses within health insurance expenditures for buying health care services; (v) Share of PHC expenses within the total health expenditures. (Table 18)

Table 18. Financial Sustainability Indicators

Financial sustainability	1997	1998	1999	2000	2001	2002
1. Proportion of capitation within the family physician's budget	-	73%	73%	71.7%	74.2%	73.5%
2. Proportion of basic practice payment in the family physician's budget	-	11.0%	11.0%	13.9%	10.5%	12.0%
3. Percentage of expenditures on procedures and analyses separately paid for, and not included in capitation, in comparison with total capitation money	-	18.0%	18.0%	16.7%	17.5%	16.6%
4. Share of PHC expenses within health insurance expenditures for buying health care services	-	14.9%	10.2%	10.1%	11.9%	13.2%
5. Share of PHC expenses within the total health expenditure	-	8.2%	5.7%	5.5%	-	-

FPs from capitation and basic practice payment has been stable at 80-82% of total around. (Figure 34) Although the income of FPs increased between 1998 and 2003 at current prices, at constant prices their income has declined.

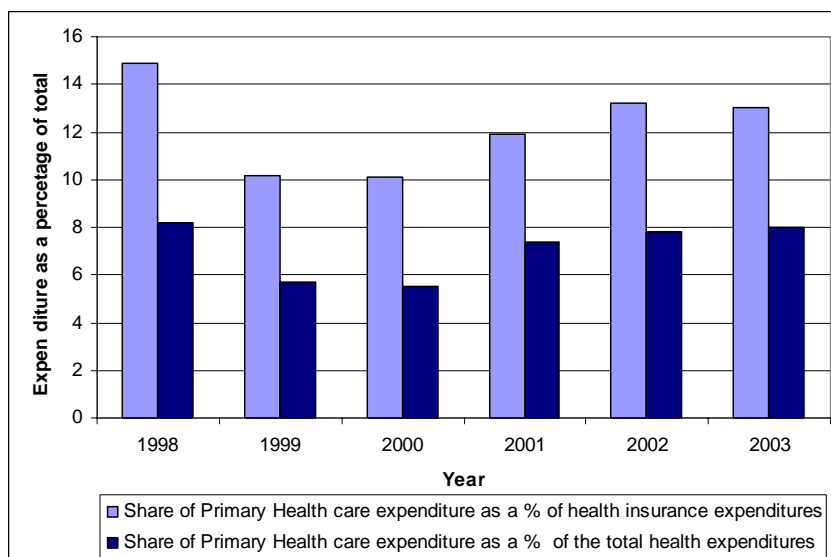
Figure 34. Structure of family physician's income by source



Source: MOSA, EHIF

The expenditure on PHC as a proportion of the total health expenditure declined from 8.2% in 1998 to 5.5% in 2000 thereafter increasing to 8% in 2002. Similarly, fund allocated to PHC as a proportion of the total health insurance expenditures declined from 14% in 1998 to around 10% in 2000, thereafter increasing to 13.2% in 2002 and 13% in 2003.

Figure 35. Expenditure on PHC as a Proportion of the EHIF and THE



Source: MOSA, EHIF (2003 estimates)

13. Effectiveness of Primary Health Care

Family physicians should be able to diagnose and manage common acute clinical conditions encountered in PHC – with very few referrals to secondary care level. Therefore, if PHC level is functioning well and is ‘effective’ then the referral levels for commonly encountered acute and chronic conditions should be low. To measure this effectiveness the study looked at ‘avoidable hospitalizations’ for common acute and chronic clinical conditions – for instance admissions for acute conditions such as ENT problems, urinary tract infections (UTI), and bronchiolitis, as well as common chronic illnesses such as diabetes mellitus, ischaemic heart disease/angina pectoris, heart failure, asthma and depression.

From the Estonian HIF it was possible to get raw data for number of consultations and admissions for chronic conditions by ICD codes. However we were unable to get data for the acute conditions identified. The number of encounters by with the family physicians, prescriptions for key drugs used for the condition, and the number of hospitalizations (inpatient admission) for the following conditions were analyzed:

- (i) Ischaemic heart disease and angina (ICD i20 & ICD i25)
- (ii) Heart failure (ICD i 50)
- (iii) Asthma (ICD J45)
- (iv) Non Insulin Dependent Diabetes Mellitus (ICD E11)
- (v) Depression (ICD F32)

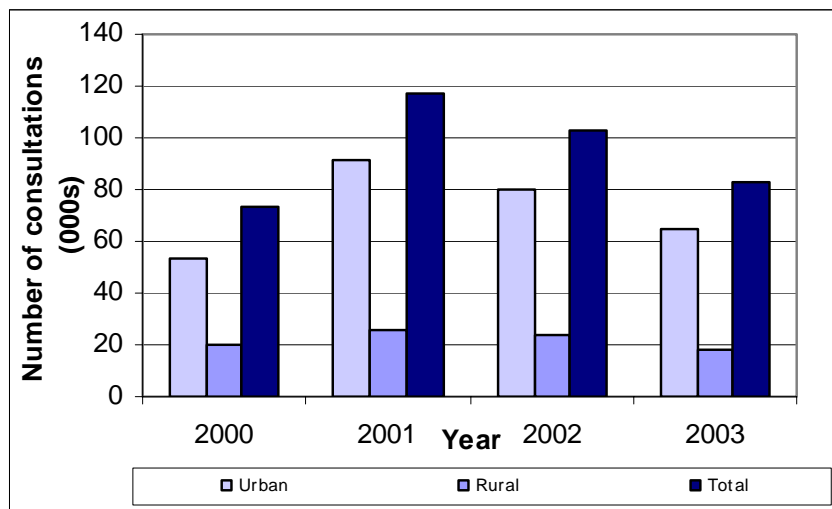
If Estonian PHC system is functioning effectively one would expect to see an initial rise in the number of consultations by family physicians for these conditions, as the utilization of family medicine increases and chronic disease management programmes are established with the guidelines. One would then expect to see a plateau in the number of consultations by FPs as continuity of care is established with regular follow up of these patients and management according to evidence-based guidelines. Similarly, with the number of hospital admissions, one would expect to see an initial increase, as new cases are identified and poorly controlled cases referred for expert opinion, thereafter a decline should be observed, as family physicians begin to effectively manage chronic illnesses and reduce the number of ‘avoidable hospitalizations.’

However, in the Estonian context a number of changes may influence the prescribing and PHC utilization patterns for chronic illness. In 2002/2003, the regulations governing prescribing for chronic conditions changed and FPs and other doctors are now able to issue prescriptions for a maximum of six months. This reduced the number of attendances at PHC level and in outpatients for chronic illness although there are no studies that have studied this phenomenon in detail. Further, in 2003, reference prices were introduced in Estonia and used as the basis for reimbursement for pharmaceuticals. How this has affected prescribing patterns have not been studied.

13.1. Management of Ischaemic Heart Disease and Angina

In the four year period 2000 to 2003 the number of consultations with family physicians for ischaemic heart disease and angina (ICD i20 & ICD i25) increased greatly in between 2000 and 2001 then began to gradually decline. (Figure 50)

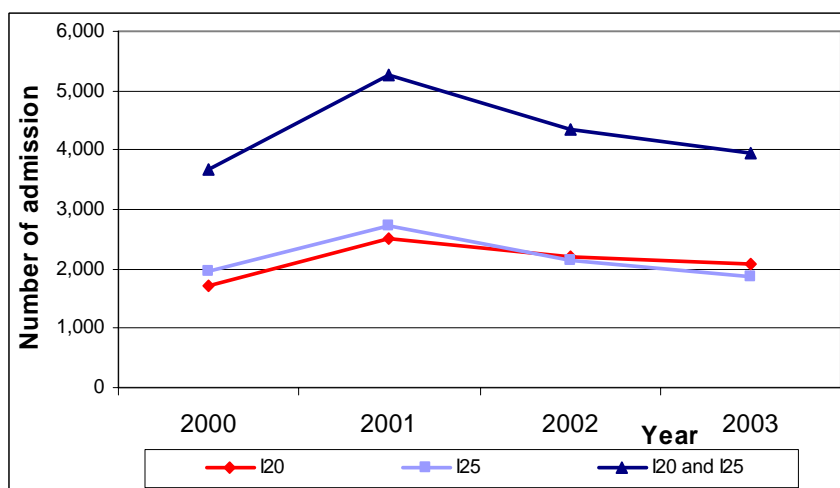
Figure 36. Number of consultations for IHD and Angina (ICD 10 Code i20 and i 25)



Data Source: Estonian HIF

In the same period, the number of admissions for these conditions initially increased then between 2001 and 2003 declined by 20% – possibly indicating improved continuity of management by PHC level. (Figure 37)

Figure 37. Number of admissions for Ischaemic Heart Disease and Angina Pectoris (ICD 10 codes I20 and I25)

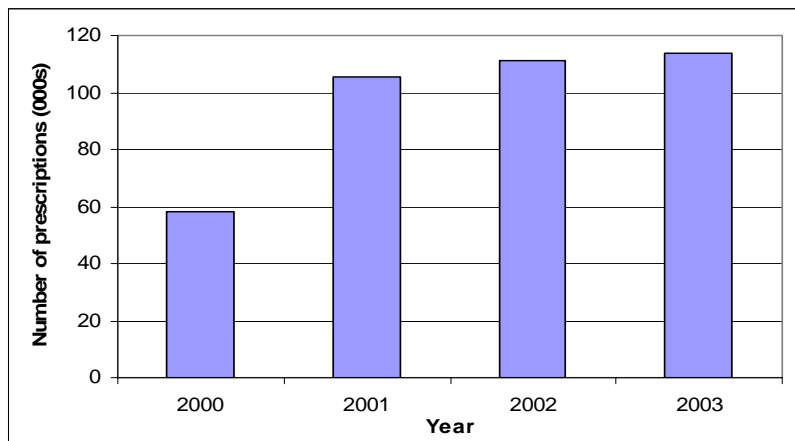


Data Source: Estonian HIF

The prescribing patterns in this period also changed. Initially, the number of Nitrates prescribed increased then leveled. (Figure 38) In contrast, and as might be expected with diffusion of best developed practice guidelines, the number of

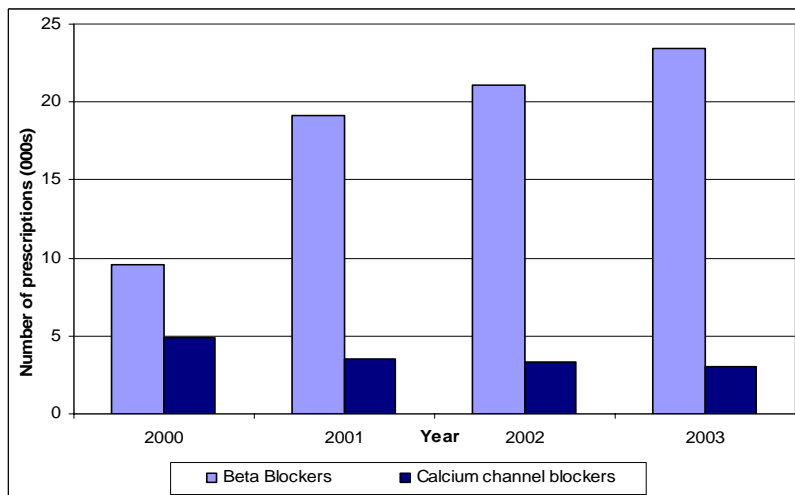
prescriptions for Beta-Blockers and Statins continued to increase – while the prescriptions for calcium channel blockers declined. This indicates improved quality of management of these conditions, reflecting current best-developed practice. (Figure 39 and Figure 40)

Figure 38. Total Number of prescriptions for nitrates



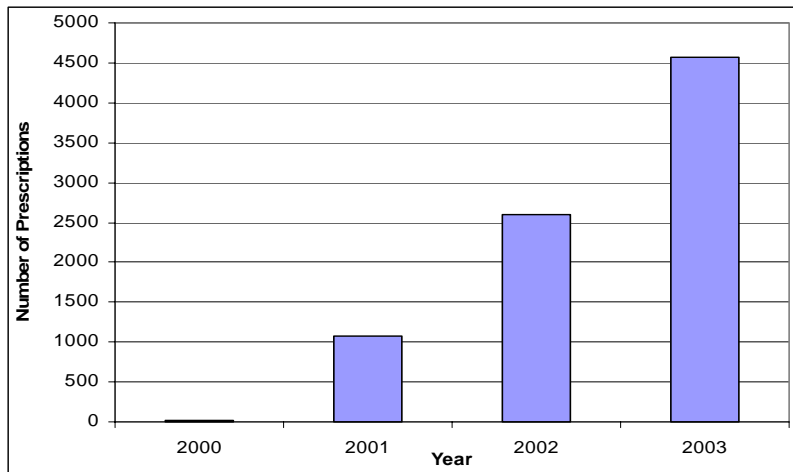
Data Source: Estonian HIF

Figure 39. No of prescriptions : beta blockers and calcium channel blockers (000s)



Data Source: Estonian HIF

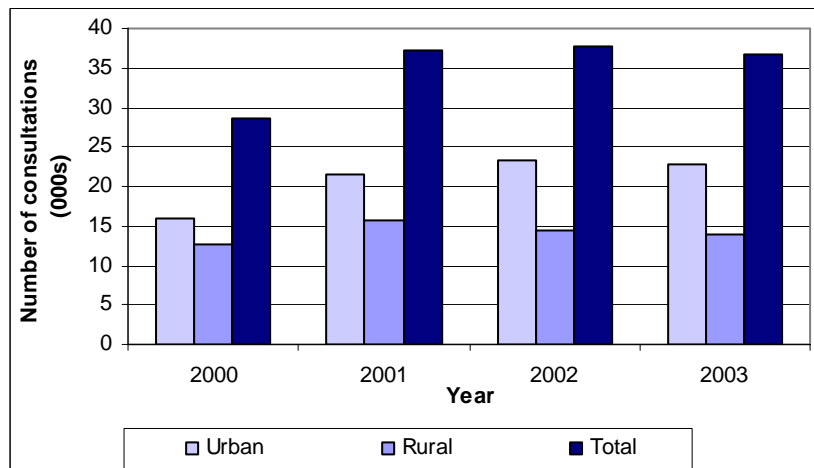
Figure 40. Number of prescriptions for Statins



13.2. Management of Heart Failure

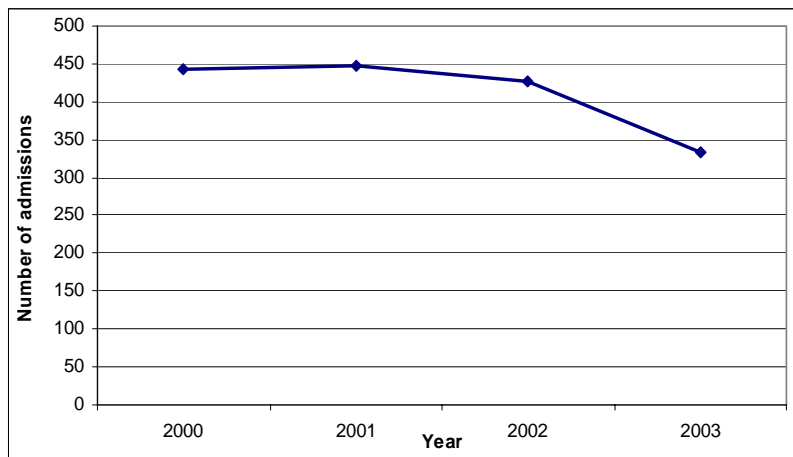
Analysis of consultation, admission and prescribing data for heart failure (ICD 10 code i50) showed an initial increase in the number of consultations between 2000 and 2001. Thereafter, the number of consultations remained steady. (Figure 41) In the same period the number of hospital admissions for heart failure declined. (Figure 42)

Figure 41. Number of consultations for heart failure



Data Source: Estonian HIF

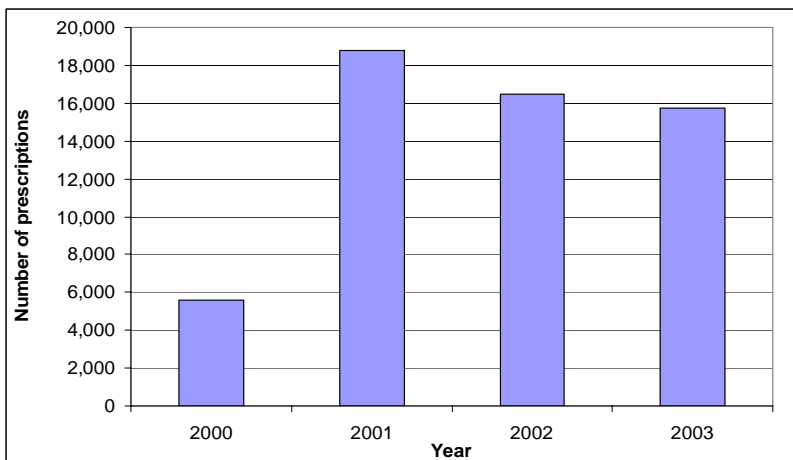
Figure 42. Number of hospital admissions for heart failure



Data Source: Estonian HIF

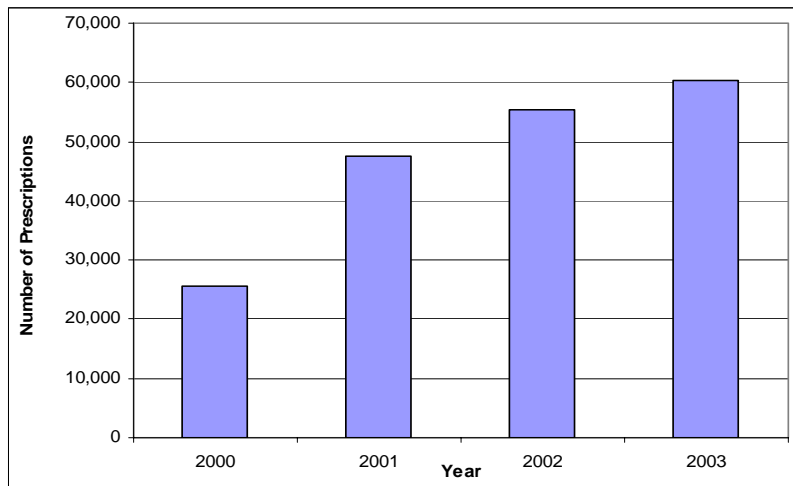
The quality of prescribing for heart failure appears to be in line with best developed practice. In the period of analysis number angiotensin converting enzyme inhibitors and diuretics prescribed for heart failure increased (Figure 43 and Figure 44), for the former especially between 2000 and 2001, thereafter declining slightly – while prescriptions for digoxin remained stable. (Figure 45)

Figure 43. Total number of ACE inhibitors prescribed for heart failure



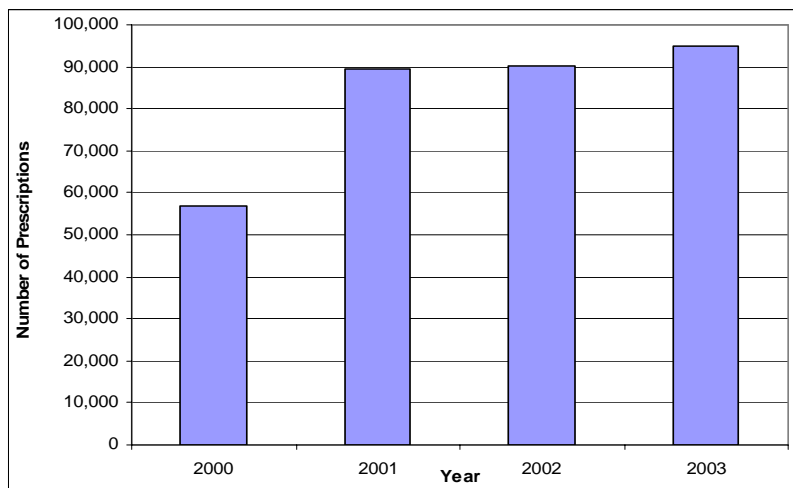
Data Source: Estonian HIF

Figure 44. Total number of diuretics prescribed for heart failure



Data Source: Estonian HIF

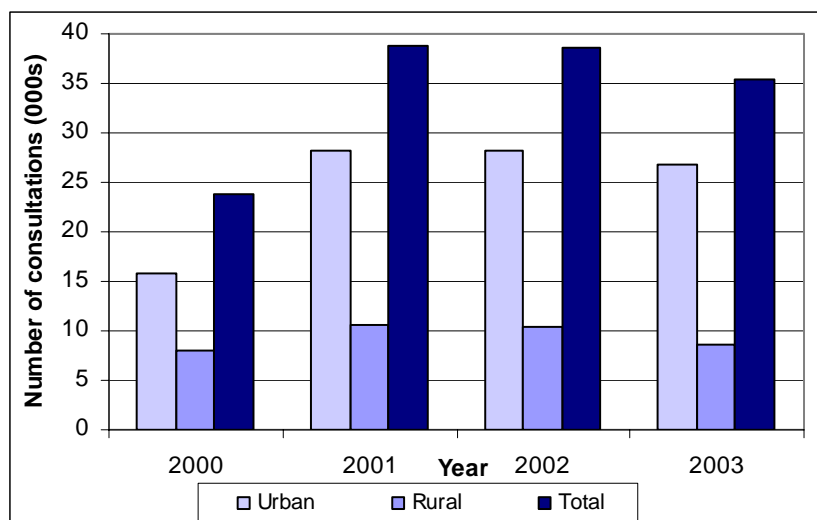
Figure 45. Number of digitalis derivatives prescribed for heart failure



13.3. Asthma

In the period 2000 to 2003, the number of consultations for asthma increased substantially between 2000 and 2001 and thereafter stabilized. (Figure 46)

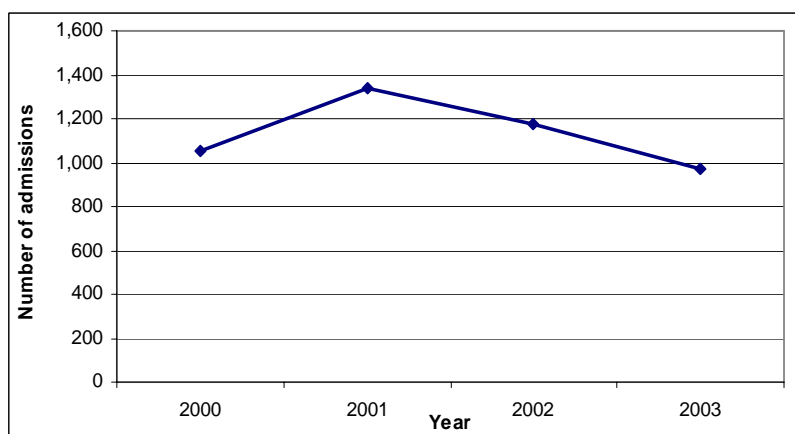
Figure 46. Number of FP consultations for asthma



Data Source: Estonian HIF

In the same period, the number of hospital admissions for asthma declined from a high of 1,400 in 2001 to under 1,000 in 2003. (Figure 47)

Figure 47. Number of hospital admission for asthma



Data Source: Estonian HIF

In the period studied the quality of prescribing for asthma by family physicians also showed a very encouraging trend. Between 2000 and 2003, the ratio of inhaled beta-2 agonists to inhaled steroids declined (Figure 48) – reflecting increased utilization of preventative treatment. In the same period, the number of prescriptions for oral (non-inhaled) beta-2 agonists and theophyllines, as well as for antibiotics declined – reflecting practice in line with best developed practice. (Figure 49 and Figure 50)

Figure 48. Ratio of oral inhaled steroids to inhaled beta-2 agonists

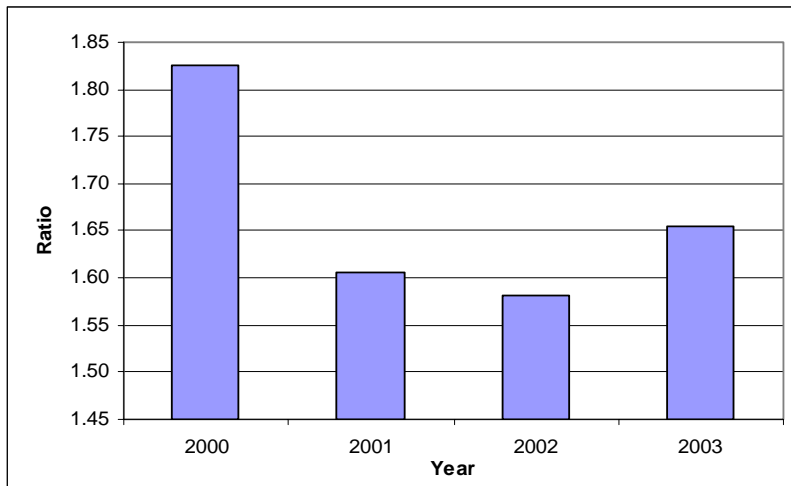
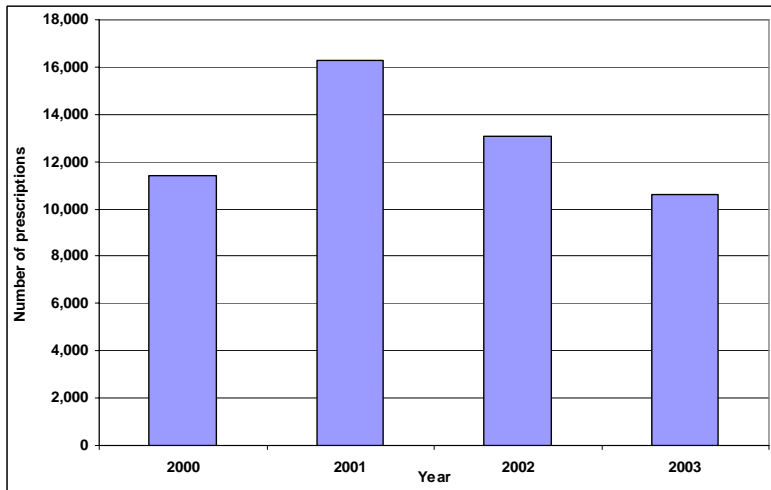
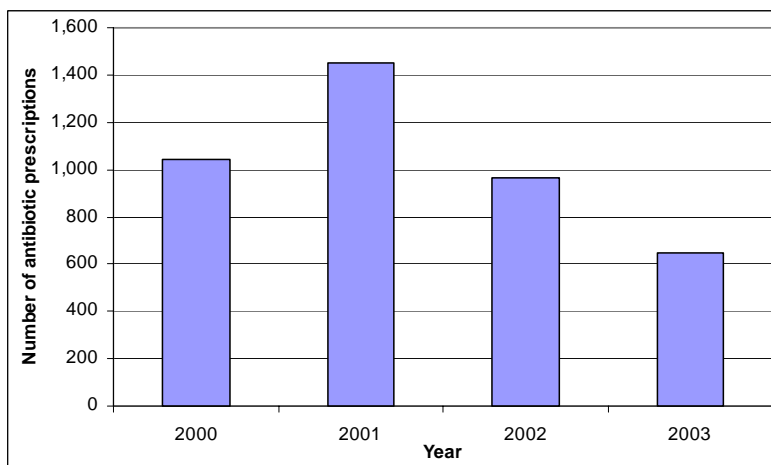


Figure 49. Total number of prescriptions for oral beta-2 agonists and theophyllines



Data Source: Estonian HIF

Figure 50. Total number of prescriptions for antibiotics

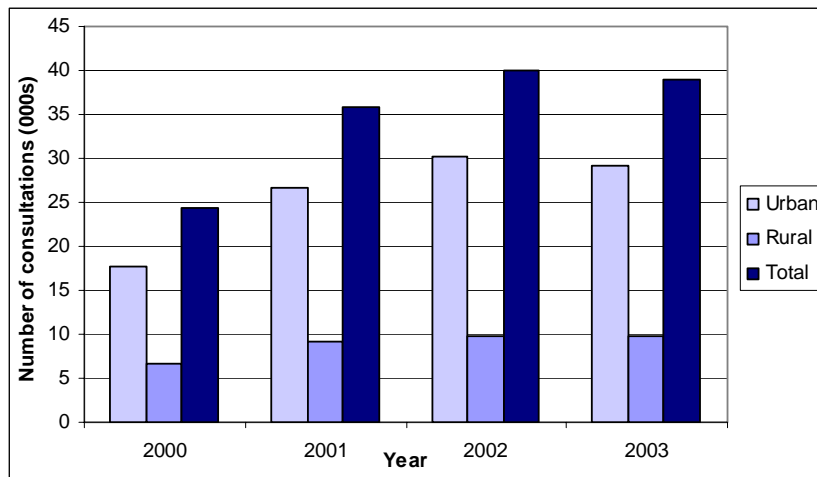


Data Source: Estonian HIF

13.4. Non insulin dependent diabetes mellitus

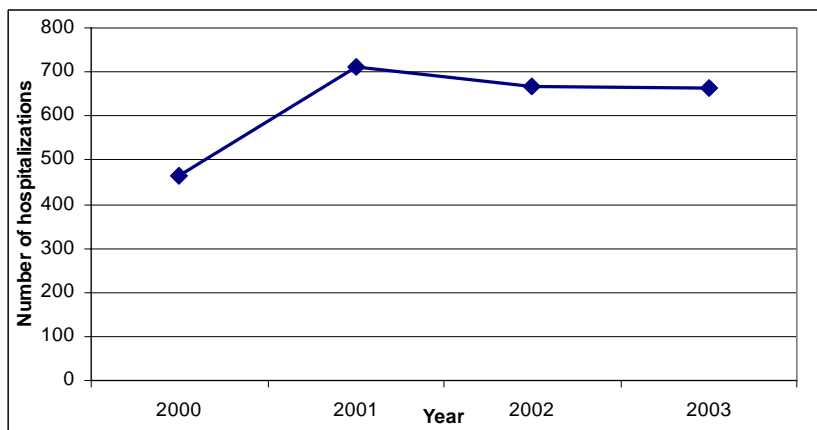
The number of consultations for NIDDM increased from 25,000 per year in 2000 to almost 40,000 in 2003. (Figure 51) In the same period the number of hospital admissions initially increased to 712 in 2001 (possibly attributed to start of diabetes initiatives and guidelines) the gradually declined to 663 in 2003. (Figure 65)

Figure 51. Number of FP consultations for NIDDM



Data Source: Estonian HIF

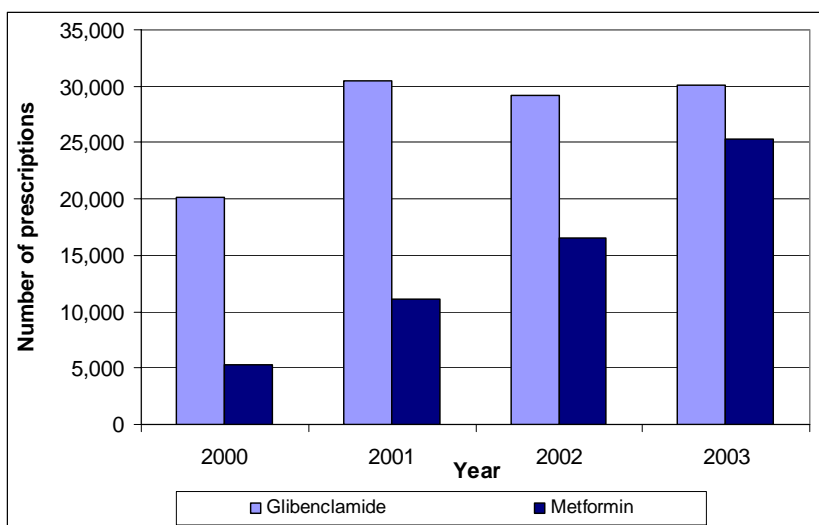
Figure 52. Hospitalization for NIDDM (ICD 10 code E11)



Data Source: Estonian HIF

The number of prescriptions for glibenclamide remained stable while that for metformin increased (Figure 53), indicating more discriminating prescribing practice –as many of the NIDDM patients tend to have high body-mass indices and benefit more from metformin as compared with glibenclamide.

Figure 53. Prescription for Glibenclamide and Metformin

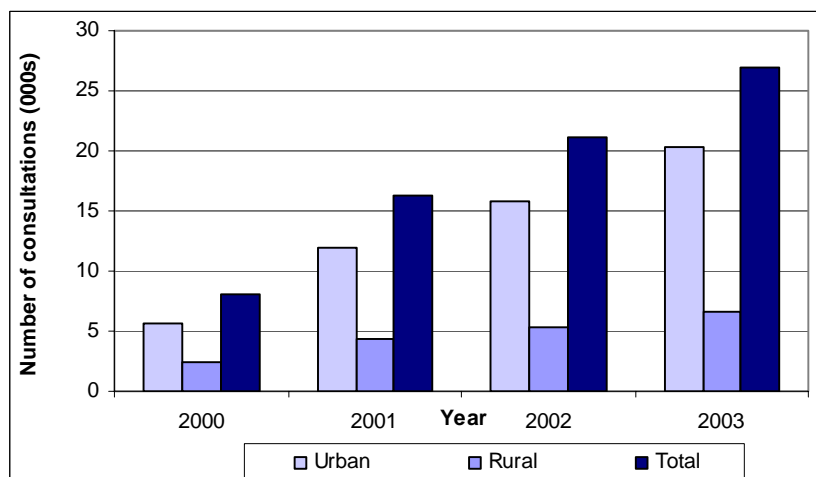


Data Source: Estonian HIF

13.5. Depression

Between 2000 and 2003, the number of consultations for depression by family physicians increased by 3.5 times from around 8,000 to 27,000. (Figure 54) This increase was substantially more for urban areas as compared with rural and warrants further investigation.

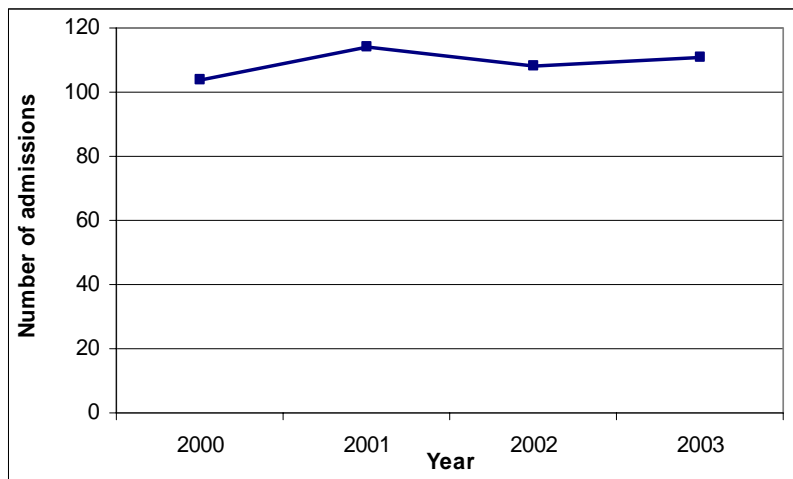
Figure 54. Number of Consultations for Depression



Data Source: Estonian HIF

In the same period the number of admissions initially increased – probably reflecting increased diagnosis and unmet need – and thereafter stabilized. (Figure 55)

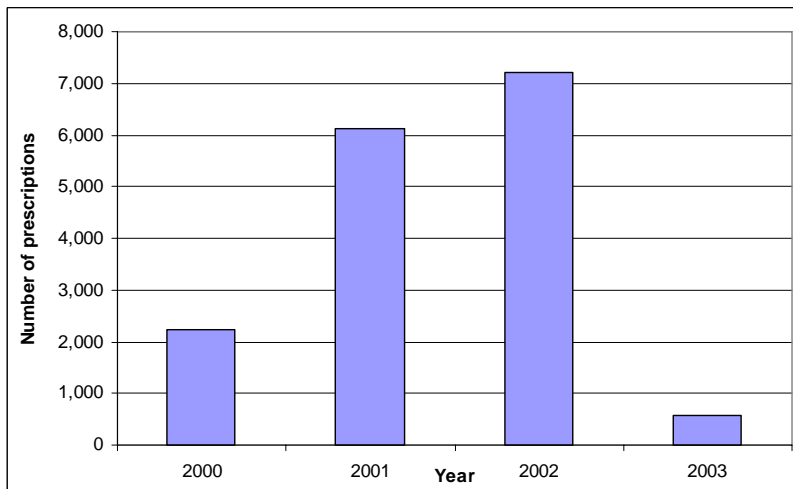
Figure 55. Number of admissions for depression (ICD 10 code F32)



Data Source: Estonian HIF

In the same period, the prescribing trends point to an increase in quality and a pattern in line with best developed practice. For instance, the number of prescriptions for benzodiazepines declined sharply. (Figure 56)

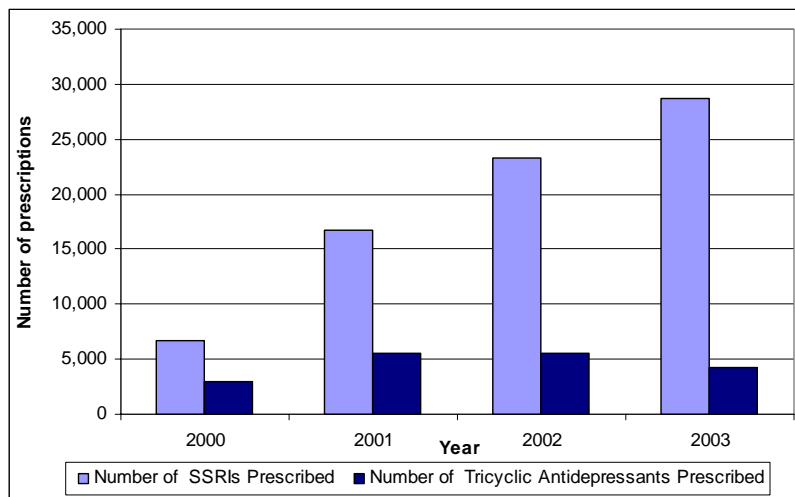
Figure 56. Number of Benzodiazepines Prescribed



Data Source: Estonian HIF

In the same period, although the number of prescriptions for antidepressants increased but the increase in the new generation Selective Serotonin Reuptake Inhibitors outpaced that for the traditional Tricyclic Antidepressants. (Figure 57)

Figure 57. Number of Prescriptions for SSRIs and Tricyclic Antidepressants



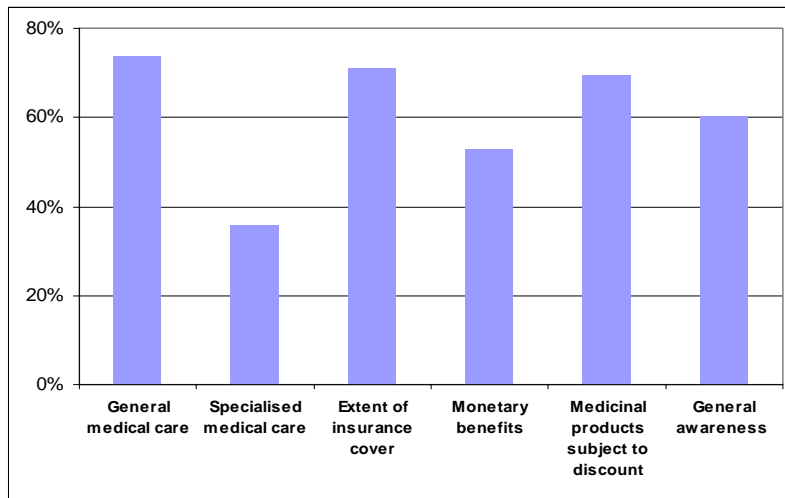
Data Source: Estonian HIF

The analysis of effectiveness of primary health care demonstrates strong evidence for secondary to primary shift with increased management of chronic illnesses in PHC setting, with an increased number of consultations, reduced referrals and hospital admissions. Further, the quality of care delivered in PHC appears to be changing along the direction of best developed practice as demonstrated by the changing prescribing patterns, with an increased uptake of practice supported by evidence and a decline in prescriptions of drugs for which the evidence is less strong.

14. Choice and responsiveness

The Estonian HIF undertakes an annual satisfaction surveys of citizens (not just the users of the health services) to establish patient satisfaction levels with General Medical (Family Medicine Services) and Specialised Medical Care. The surveys also explore perceptions and satisfaction on availability, quality and choice of services. Majority of the people surveyed in 2003 were aware of their rights, in particular as regards their rights of general medical care. (Figure 58)

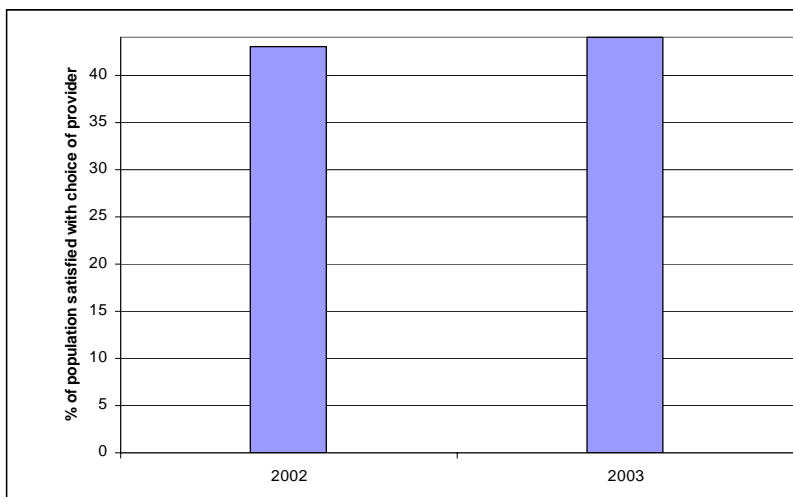
Figure 58. Proportion of the insured aware of their health care rights in 2003



Source: EHIF 2003 Annual Report

Between 2001 and 2003 the proportion of the insured very- or generally-satisfied with the quality of services declined from 70% to 56%. In the same period, those very- or generally-satisfied with service 'availability' declined from 56% to 52%, while that with 'choice' of services increased from 43% to 44%. (Figure 59)

Figure 59. Proportion of the insured 'very' or 'generally' satisfied with choice of general and specialized medical services



Estonian citizens ensured with the HIF have the right to choose their family physician. The surveys undertaken by the HIF show that around 15 % of the people changed their family physician in the three year period from 2000 to 2003. Around one in three of the respondents who changed their family physician cited “location” – often the change of residence – as the reason. However, in 22 % of the cases people change their FP because of dissatisfaction. Women, highest and lowest income groups were more likely to change their family physician. Those aged 25 to 34 years changed their family physician more frequently as compared with those aged 50 to 74 years.⁷³

In 2003, around 60% of the people were aware of their rights under the health Insurance Act. A higher proportion, 73.6%, was aware of their rights and entitlements in relation to General Medical Care.⁷⁴

Users generally have good access to family medicine services and are able to choose how they access their physician, either through an appointment or by phone. The EMOR survey in 2003 showed that 77 % of the respondents surveyed could access their family physicians by phone to seek advice. In 2002, a total of 73 % of respondents gave the same answer.⁷⁵

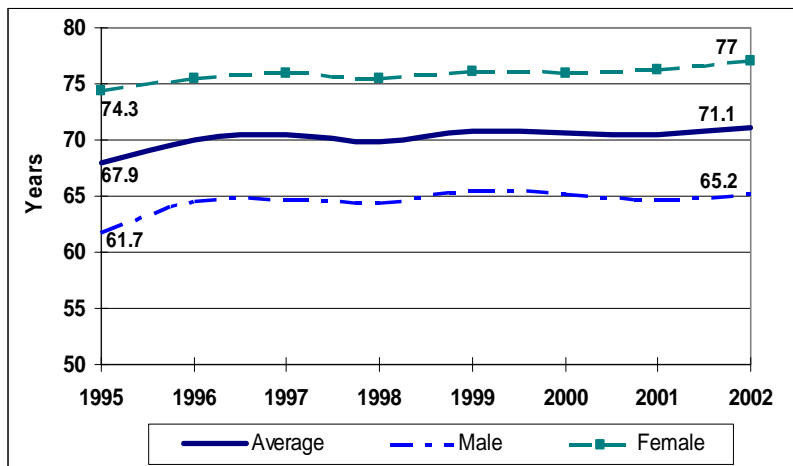
It is important to note that the surveys cover all citizens and not just health service users. This may skew the results as those who have not used services but are exposed to ‘negative publicity’ on health services in the press may base their impressions on media exposure rather than personal experience.

15. Achievement of Health Systems Goals

15.1. Health

Between 1995 and 2002, the Estonian population health indicators improved. The average life expectancy at birth increased from 67.9 years to 71.1 years (Figure 60)

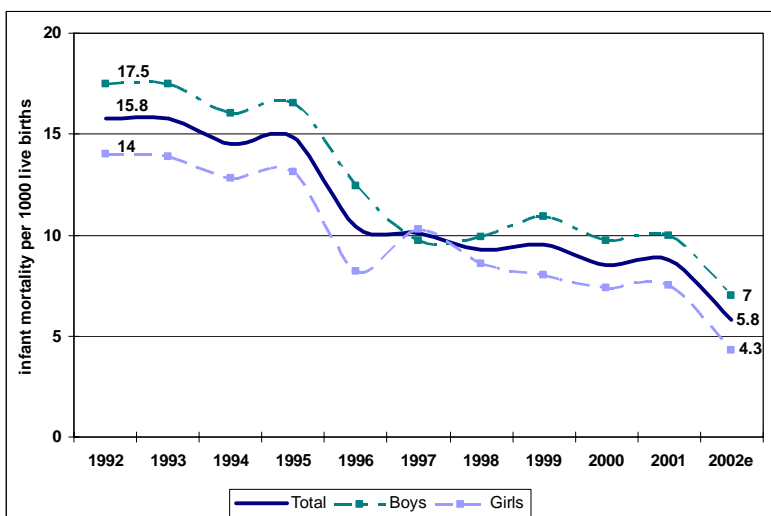
Figure 60. Life expectancy at birth



Source: Social Sector in Figures, MOSA 2003

Between 1992 and 2002, the infant mortality rate declined substantially from 15.8 per 1000 live births to 5.8 in 2002, the lowest level in a post-Soviet country. (Figure 61)

Figure 61. Infant Mortality Rate

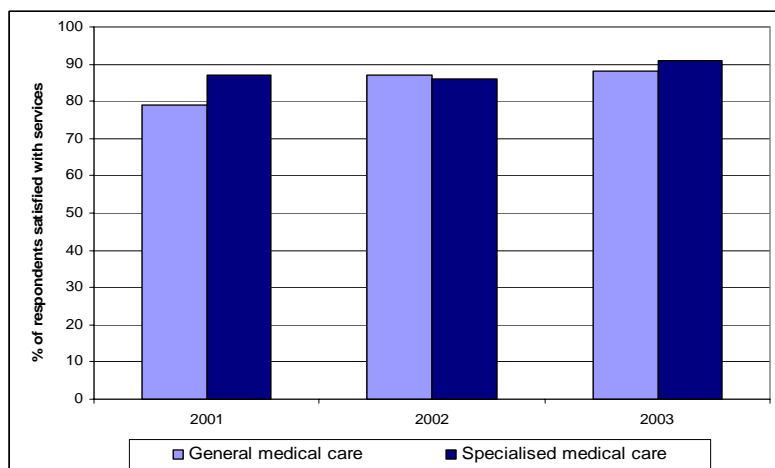


Source: Social Sector in Figures, MOSA 2003

15.2. Satisfaction

The surveys undertaken by Estonian Health Insurance Fund in 2001-2003 show a high level of satisfaction with both General Medical (Family Medicine Services) and Specialised Medical Care. The majority of the people surveyed by the HIF between 2001 and 2003 were either very satisfied or generally satisfied with general medical services and this proportion had increased from 79% to 88% of the total – almost same as that for specialised medical care.⁷⁶ (Figure 62)

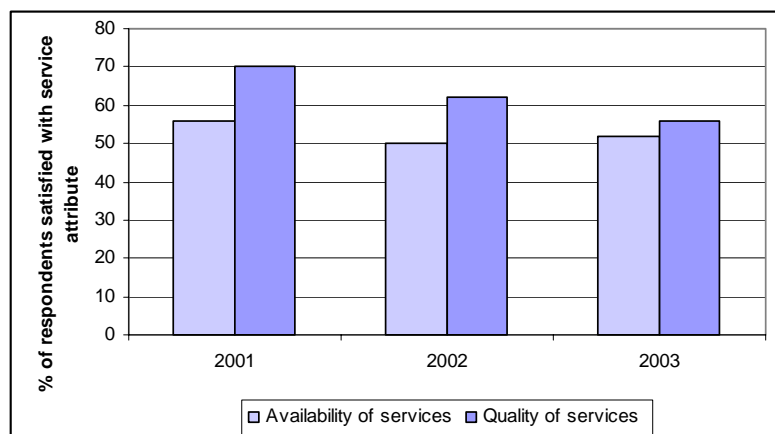
Figure 62. Percentage of citizens insured with HIF who were very satisfied or generally satisfied with general medical services



Source: HIF Annual Report, 2003.

However, between 2001 and 2003 the proportion of the insured very- or generally-satisfied with the quality of services declined from 70% to 56%. Similarly, in the same period, the proportion of the insured very- or generally-satisfied with the availability declined from 56% to 52%, while the satisfaction with choice of services increased slightly from 43% to 44% of the total.⁷⁷ (Figure 63)

Figure 63. Proportion of the insured 'very' or 'generally' satisfied with availability and quality of general and specialized medical services



Source: Estonian HIF

15.3. Financial Risk Protection

There is good health insurance coverage of citizens by the HIF. However, as described in section 8.4 of this report, cost-sharing has been introduced for PHC and hospital services. Since 1997, out of pocket (OOP) (excluding private insurance payments) and private health expenditures (OOP+private insurance payments) rose steadily and in 2001 respectively accounted for 19% and 22% of the total health expenditure. This is not a high figure, as compared with other post-Soviet countries but the rise is of concern and this needs to be monitored carefully, especially the impact of cost sharing on vulnerable groups, through regular household surveys which disaggregate data by socio-economic groups and geography (urban and rural). A detailed analysis of financial risk protection is beyond the scope of this report but several studies on health inequalities and equity explore this issue in more detail.⁷⁸

16. Qualitative Research Findings

The evaluation shows that family medicine centred PHC reforms in Estonia have been successful along a number of dimension. The reforms are institutionalised and PHC is fully scaled up to cover urban and rural areas. It is important to explore 'how' and 'why' Estonia was able to achieve rapid institutionalisation and scale up in a short period of time while most post-Soviet countries have struggled with their PHC reforms, with some still debating (after thirteen years of the break up of the Soviet Union) whether family medicine should be introduced or not.

Primary research using qualitative method of inquiry was used to identify key informant perceptions of the reforms, in particular: (i) whether the PHC reforms were successful in achieving the policy objectives set at the start of the reforms; (ii) what worked well and limited progress was made; (iii) the barriers to reforms; (iv) what factors helped create an 'enabling environment' for the reforms; (v) challenges which remain and need to be addressed.

A total of 35 key informants from several levels (including the MOSA, Health Insurance Fund, Tallinn City Health Department, Regional Health Department, Municipality Health Department, University of Tartu, several family physicians from urban and rural family practices, Estonian FM Association, Estonian Nursing Association, Emergency ambulance services), were interviewed in two stages, first using a proprietary semi-structured interview and second using a topic guide which allowed inductively to explore in-depth some of the themes that emerged from the first set of interviews. Careful selection of key informants enabled a diverse sample of key informants to be accessed.⁷⁹ Thematic analysis was undertaken using the framework approach.⁸⁰ The themes emerging from interviews were consolidated under a few main themes. The list of those interviewed is appended in annex 2.

16.1. Perceived achievements of PHC

Most of the respondents emphasized that key achievements were: (i) coverage of the whole population; (ii) a focus on the user; (iii) more personalized service; (iv) enhanced "continuity of care and overview"; (v) ability to treat all age groups; (vi) horizontal view of the patient and illness; (vii) increased professionalism at PHC level – enhanced role of family physicians and nurses; (viii) increased independence for the health professionals (family physicians and nurses), and; (ix) clearer responsibilities to the users as now a single professional was responsible for the patient in contrast to "the polyclinic model of the past where the responsible person not clear."

An important and novel feature of the new PHC system was cited as the ability of the users to choose their family physicians. The contract and the law on cost sharing encouraged transparency and help clarify responsibilities.

“The patient is now the king. In the past patients had no rights, waited long time and received poor care... Patients now have a named doctor and are able to have a personalized care”

“PHC teams now try and give high quality service, trying to respond the needs of the patients.”

“There is now increased choice for patients – patients can chose anywhere in Estonia.”

“Users are better informed and know their rights and responsibilities”

“Family physicians now have the possibility to manage own clinical work and practice. Most enjoy the responsibility. This independence motivates the health professional.”

16.2. Factors which created an enabling environment for rapid uptake of reforms

16.2.1. Contextual issues particular to Estonia

Many respondents commented that small size of Estonia enabled more rapid roll-out of the reforms. Geographic location and proximity to countries such as Finland and Sweden with advanced PHC systems meant that many doctors and policy makers were able to visit these countries and develop collaborations, which positively influenced perceptions of FM centred PHC and also gave a glance into what could be achieved with a good PHC system.

Estonian mentality – “hard working and want to improve the system” – was cited as a critical factor in rapid development of the system. The long sought independence gave Estonians an impetus to improve themselves to ensure that as a small nation they would be able to survive without continual dependence on external assistance. Many commented that the Estonia already had a “developed society” that was enthusiastic about advancement.

“[we have] a culture of wanting to do better”

“There was a willingness to learn more and an enthusiasm change the old health system, which was not Estonian and was imposed by the Soviet Union.”

16.2.2. Strong leadership and coordination

Many of the respondents identified that the presence of “an enthusiastic group of pioneers” and strong leadership from Tartu University and the MOSA was critical to the introduction and diffusion of the family medicine model.

Most respondents felt that many “important people were in the right place at the right time” and these leaders provided strong stewardship but also acted as role models to the younger generation of professionals. This enthusiastic group (from

MOSA and Tartu University) developed around them a critical mass of able professionals to conceive and implement the reforms. Early investment in the training of doctors as FM specialists meant that once key policies were developed there was a critical mass of family physicians to operationalise changes (such as rapid introduction of the FM contracts).

“The FP Pioneers very enthusiastic. They were the ‘fuel’ and the ‘motor’ of the reforms. Training a critical mass of FPs was critical to reforms. We had 250 people trained before the 1998 contract was introduced.”

“MOSA provided strong support and leadership. ...There was good cooperation between the MOSA and the Health Insurance Fund. Within the MOSA there was good trust between the Minister, the Deputy and the technical team... good support from the WHO.”

“Country doctors –very important people– wanted change. There was good relationship with the county doctors and the MOSA.”

16.2.3. Flexibility and a practical approach

Key faculty from Tartu University were “actively involved in the development of FM and policy discussion” with HIF and MOSA as well as training and implementation of reforms. This close collaboration provided a policy-to-operational implementation link and contributed to development of “realistic policies” as well ensuring the “right order of organization” of reforms and implementation of policies.

“Ministry started with decrees rather than a law, enabled independent contracting with the HIF, then the law followed.”

“The process until 1997 was not political — [there was a] practical approach, supporting the development of the FM centres with equipment and training. This avoided having too many opponents. In 1997 the MOSA took decisions to organize FM but by then FM was very well established and was able to quickly respond to the policy change.”

“Initially the [FM] model was developed by the practitioners, University, FM Association and the enthusiasts. The legislation followed – so there was no straitjacket.”

“The legislation in 1996-7 was flexible.”

16.2.4. Window of opportunity

Rapid pace of liberalization and reform meant that the Parliament and politicians were focused on economic reforms rather than health. This demonstrates that early in transition health was not ‘high-politics’ and this created a window of opportunity for the policy makers to push through health reforms with minimal opposition from politicians.⁸¹ In effect, it appears that the early stage of the reforms, as one respondent commented, “bypassed the politicians.”

Soon after independence all the key stakeholders wanted improved health services for the citizens and were supportive of initiatives which aimed to change the system in this direction. There was as one remarked “readiness to do the right things”:

“Politicians, population wanted an improvement in health system ... [there was] willingness from the Parliament, the HIF, Ministry, University and many doctors. Tartu City Council opened the first FM centre (decentralised) and independent with support from the municipality. This was a good signal”

“In the 1990s health was not a political issue and was not on the political horizon. Political debate more focused more on liberalization and privatization. Politicians were not interested in health so the reformers were able to push through the reforms rapidly.”

16.2.5. Out of sight-out of mind

The policy makers were careful to find paths of least resistance and not raise too much publicity in the early stages of PHC development.

“Media was quiet when changes were introduced in the rural areas. Started to notice when changes introduced in Tallinn but by then the model had spread to the whole country.”

16.2.6. Early institutionalisation of FM and reforms

Family Medicine was recognised as a specialty very soon after independence. The development was supported by high quality training courses at Tartu University. The introduction of FM in undergraduate medical training ensured that the medical students were “sensitized to FM early in the studies”. FM training was introduced in the medical curriculum in the second year: before exposure to hospital medicine and “developed a positive impression” of the specialty early in their medical careers. This encouraged good demand for the FM residency positions.

The trained doctors and nurses gained specialist recognition and were able to receive certification. The family physicians were able to use the certificate to secure contracts. A critical mass of newly-trained confident PHC professionals was rapidly created. This group were able to further institutionalise FM as a specialty by establishing a FM Association, setting own professional standards, and engaging (through the Association) in the policy development process.

The HIF contract gave FM legal recognition and much needed security. It was seen by many of the respondents as a critical instrument in the change process. The contract was easy to understand and was rolled out very rapidly. The contract also created the possibility to “standardize” the PHC system quickly. Several respondents remarked on these points:

“...Dean [of the faculty of medicine] decided to establish FM. Presence of doctors and support from University gave a strong profile at the MoH but also within the

University. [We] Had the opportunity to regularly discuss reforms with supporters and opponents to develop ideas”

“Specialist training gave us increased independence and professionalism... increased pay level and increased capacity to resolve problems.”

“Now change is driven by the Family physicians: strong FM Association with 600 members out of 900 family physicians — biggest specialty and the biggest society in Estonia.”

“HIF contract drove change. It sent a strong signal that FM was a specialty and allowed country wide standardisation of FM.”

16.2.7. *Encircling strategy*

The policy makers were very astute in not beginning the PHC reforms in Tallinn, which was dominated by narrow specialists and hospitals.

“We realized Tallinn would be difficult and the local government was not responsive. We developed the process outside Tallinn and gradually moved in PHC was adopted in Tallinn in 2000. Rural areas in Tallinn started first then other districts adopted.”

“Tallinn Government initially was passive and did not actively oppose the changes.”

16.2.8. *The Trojan Horse*

When the PHC reforms and FM were eventually introduced to Tallinn it was in the form of pilots. This strategy was adopted by the MOSA to prevent strong resistance from emerging from the specialists, which could potentially derail the reforms.

16.2.9. *Keep it simple stupid*

A critical enabling factor was that the policy makers were realistic with what could be achieved and the key elements of the reform were kept simple. For instance the policy makers opted for a simple per capita payment method for PHC – taking into account of the available analytic capacity and the understanding of PHC reforms. The contract was also not complex and understandable by both the purchasers and providers. This attention to simplicity early stage of the reforms was seen by most of the respondents as a key strength of the reforms:

“Reforms started with a simple decree.”

“We opted for a simple mixed financing model using per capita and fee for service.”

“HIF developed a realistic contract – learnt from experience of other countries.”

16.3. Challenges and risks to PHC system

16.3.1. Lack of understanding of health systems and PHC

Most respondents identified that a small number of policy makers and politicians have a sound understanding of health system and PHC issues. There is reluctance, by many politicians, to accept that health reforms are part of a continuing change process and the health system needs to evolve continually to meet changing needs. Instead, many politicians who are narrow specialist resist change and erect unnecessary barriers by undue involvement in technical and operational matters relating to health system. These concerns are captured in remarks made by several respondents:

“Biggest barrier to development of PHC is the ‘lack of real knowledge about PHC’ at the MOSA, the HIF, as well as the politicians. Politicians get involved in micro issues (because we are a small country) but ignore macro and structural issues. Very few people have education on health systems organization and management.”

“The Parliament is [now] dominated by the secondary care specialists... PHC is not accepted well by the politicians who oppose FM model.”

“A problem is that once reforms have been implemented there is a belief that the reform will solve all the problems and no further change needs to be done. This results in ‘entrenchment’ of positions and rigidity and a barrier to further change.”

16.3.2. Legal barriers to innovation

The Law is not clear on a number of issues surrounding family medicine and corresponding structures. For instance the status of FM centres is unclear whether these institutions are private or public entities. Most of the respondents interviewed remarked that the current laws governing FM were too rigid and encouraged standardisation and minimum standards to The Law was

Currently, it is not possible in Law to be partners in family medicine. One person is recognised in Law as the ‘principal’ and the rest are classified as assistants. This creates a problem for part-time family physicians who want the possibility of working half time and have patient list and be partners. The law creates a particular barrier for university lecturers/professors who are FM trainers cannot become partners and cannot have their own list. These views were shared by most of the respondents who remarked:

“Around 95% of the FPs are female. They can now only have a list if they are working full time. This prevents part-time work and flexibility.”

“[We] want to revise the regulation/legislation to remove barriers to change. Need more flexibility in the system to allow innovation and change in the system. The system encourages standardization and minimum standards but does not encourage improved quality.”

“Regulation of human resources in PHC too rigid... [there is] no flexibility for skills substitution or teamwork.”

“Many FPs are frustrated to be managers. Legislation needs to change to allow doctors to work in groups and also share a manager. The workload is creating negative image. There are too many legal, ethical and financial problems. These are too much for a single doctor.”

16.3.3. Lack of incentives to further develop PHC

Family physicians in Estonia are well trained and have appropriate professional knowledge, skills and attitudes to further develop services to extended PHC and achieve further secondary-to-primary shift. Although all of the PHC team members interviewed wanted to further develop and extend the services they provided they commented that the existing payment scheme and the contract discouraged innovation and service development, while it encouraged the FP to minimise service levels. In particular there was concern that the payment systems did not value health promotion and prevention and encouraged a biomedical model. There was a consensus that changes in the payment systems were needed to move beyond the curative focus and encourage broader uptake of health promotion and prevention. These shared views are reflected in the comments:

“Incentives to develop extended PHC and new services do not exist”

“The system encourages minimum standards and not innovation and improvement of standards.”

“Not enough time for health education and disease prevention... and no incentives to provide these services.”

“Current contract is limiting. The list of procedures in the contract limits innovation. If more services beyond the list are provided, these are not reimbursed for these so adversely impact on the salary. It is not possible to substitute services from secondary care to primary care.”

16.3.4. Increased workload without commensurate pay increase

Almost all of the PHC team members interviewed, as well as many of the policymakers, felt that they were overburdened by routine paperwork, administration, reports, and collecting statistical data which was not fed back to them. The workload had increased every year without a corresponding increase in funding levels. Most doctors feel too “overloaded with administrative work” and “have less and less time for the patients.” Many of the respondents felt that there was excessive micro-management with a focus on inputs and processes. As several of the respondents commented:

“[We, as a health system] need to move away from micro management and rigid rules to managing performance and outcomes.”

“In five years the workload has increased. More and more tasks delegated to FPs, including work that is not in the contract or the job description: Social work in particular for assessing disability.”

“Responsibility and independence is good but also brings problems of administration and management – too excessive”

“Much of work not recognized or remunerated e.g. working with disabled patients.”

“Management capacity of doctors limited. Group practices are able to share the burden ... and pay for bookkeeping services but small practices find it difficult to afford this. The possibility of ownership other than doctors being discussed – a neo-liberal view, not popular with doctors.”

16.3.5. Human resource shortage and retention of health professionals

Shortage of trained human resources was identified as a critical issue both for family physicians and in particular for FM nurses. Several of those PHC professionals surveyed (especially the residents) remarked that they contemplated leaving Estonia to work in Europe, and in particular in Finland or Sweden. Most complained bitterly that it was very difficult to find locum family physicians and this prevented family physicians from taking annual leave or have protected time for continuing medical education.

“Manpower shortage is an issue. Young people will probably immigrate to other EU countries but those who are settled will not move. ...No clear plans for incentives...to retain health professionals.”

“We face ‘risk of burn out’. Physicians in small practices [like mine] are unable to take holidays or go to courses.”

16.3.6. Lack of management capacity at PHC level

“Practices are like small companies but FPs not trained in managing a small business... [there is] no management training in the training curricula.”

“Need health management training and management of a PHC practice... [it remains a problem for young doctors on how to start a practice.”

“Low management capability in PHC and too much administration for the doctors... but University does not provide training in management, how to manage a budget, business planning.”

16.3.7. Hospitals crowding out primary health care

There is still substantial allocative inefficiency in the system, with hospitals consuming a large proportion of the health system resources. Hospital payment systems encourage supplier-induced demand, although this may be, to a limited

extent, addressed by the newly introduced DRG system. However, there is a need to introduce mechanisms to ensure resources are not allocated to secondary care at the expense of PHC. This is a real risk identified by several respondents:

“Politicians pushed for a price increase for hospitals. Forced an increase of 24% in the global budget allocated to hospitals reflected in increase in the price of services in the middle of 2003... PHC received an increase of 9%.”

“Big risks in the hospital sector: although budgets are capped these are exceeded and in mid year the hospitals want a budget increase or get additional funds from municipalities... Difficult to monitor upcoding and supplier induced demand.”

16.3.8. Team versus family medicine centric PHC

Most of the respondent commented that the PHC system is family physician centric and nurses have a subordinate role – and are often delegated the routine paperwork. Although most of the respondents recognise the importance and value of teamwork in PHC they are also acutely aware of the fact that there is not an enabling environment that encourages team working within and beyond FM centres. At PHC level generally and at practice level specifically no incentives exist for developing and sustaining teamwork.

“The PHC model is too medical and too curative, too family physician centric. We need to develop incentives to motivate [PHC professionals] for improved teamwork.”

“PHC is not only Family Medicine. The team concept needs to be further developed. We do not really have functioning PHC teams as yet.”

“We need good models of payment to encourage horizontal working with other professionals in PHC. Teamwork needs to be developed. Need investment in Family Medicine nurses and other health professionals.

16.3.9. Limited Monitoring and Evaluation of PHC level

Family Physician Centres are private entities but contacted publicly. The law on the status of the PHC centres is not clear, especially as regard their juridical status as public or private institutions. The law prevents the MOSA and the HIF (Government) to collect data from private enterprises or hospitals. This is a big barrier to developing a coherent M&E system. There are limited incentives to collect timely and relevant data to assess the performance of PHC and limited analytic capacity both at the HIF and at PHC level mean that even the available data is not analysed

“No detailed data collected on referral patterns. Available data is not analyzed... [We have] No systematically collected data to show differences between practices and regions.”

“There is no independent institution that can analyze policy and outcomes. Analysis is done by MOSA and to a lesser extent by Tartu University... [We have]

manpower problem in terms of availability of human resource... too few people with the ability to analyze the data generated [by the HIF].

16.3.10. *Increasing risks to financial sustainability*

There are inadequate incentives to enter or remain in practice in the cities which are very expensive to buy or rent premises. There is no support from the local government to family physicians. This is discouraging young family physicians and FM residents who do not want to take a personal risk and invest in practice premises. The comments from the respondents highlight some of these financial risk problems identified:

“Starting a new [FP] practice is difficult. [There is] no capital allowance or rent support in Tallinn too expensive for new FPs. The per capita payment does not take account of the ‘market forces’ factor and the capital-cost variation in regions. Need a systematic approach for the country as a whole. In rural areas the family physicians get support from municipalities but not in the cities.”

Initially ‘independence’ identified as an incentive. But now residents (50%) want to become salaried employees.”

“The biggest problem in Estonia is the lack of investment in practice premises: this is adversely affecting training of residents and flexible working. Many family practices are not up to the quality standards specified in the law. They have small budgets and are unable to invest in premises. Although some FPs have taken bank loans to invest in premises this is considered by most of us to be too risky.”

“[There are] no laws on retirement of family physicians. They are unable to sell the practice or the equipment on retirement.”

“Risk is increasing: If the number of procedures and tests are beyond the ceiling then this has to be paid from the revenue, as there is no more reimbursement from the HIF. There is uneven distribution of risk and service level.”

17. Conclusions

17.1. Key achievements

Estonian Primary Care Reforms are a success story. The country has effectively introduced family medicine centred primary care system covering the whole of Estonia. The family medicine centred primary care system in Estonia is a good model for post-Soviet countries as well as countries of Central and Eastern Europe.

The primary care system is well organized and regulated through effective legislation and Ministerial decrees that specify the scope, scale and the content of services to be provided. The legislation specifies the minimum standards for practices and equipment that need to be available for daily practice.

Entry to Family Medicine practice requires specialist training and certifications – which in turn is rewarded by a bonus payment. The number of people that can register on a family physician's list is specified in the regulations. The appointment of family physicians to existing and new positions is undertaken through a competitive and transparent process. The number and distribution of practices are determined the MOSA and the Counties and specified in legislation – ensuring equitable distribution of services and access.

Primary care is provided predominantly by family physicians but the public also have access to emergency (ambulance) services, and outpatient specialists (such as gynaecologists, dermatovenereologists. The policy choice of having multiple providers in primary care reflects the compromises that needed to be made in the Estonian context – taking into account of the wishes of the public to maintain access to these specialists and the need to avoid strong resistance to introduction of family medicine.

There is an excellent training programme for family medicine, comprising a three year residency programme as well as a well-executed in-service retraining programme. Specialist training programme has been introduced for family nurses. The leadership of the University of Tartu has been critical in developing a well-trained cadre of family physicians which has now reached a number enough to cover all of Estonia. There is a well organized continuing professional development programme. The Family Medicine Association plays an important role in maintaining the quality standards within family medicine. The Association works with practices and family physicians to develop evidence-based clinical guidelines, undertake audit in practices, and encourage research.

PHC is financed from the HIF through contracts between the HIF and the family physician. The payment is based on a basic practice fee, weighted per capita payment (adjusted by age groups) and fee-for-service payments for additional services and investigations. This payment system works well and provides an excellent platform to modify the scope, content and quality level of the services required.

The study results provide evidence that Estonian primary care system (along with preceding policy changes that introduced a Health Insurance System, purchaser-provider separation and contracting) has been successful in improving equity, efficiency, effectiveness with high satisfaction levels of the users.

The Estonian Health System is one of the most equitable in the post-Soviet countries. Over 94% of the population have coverage by Health Insurance and receive good quality health services – unlike many countries in the ECA Region where the citizens have a right to health in law but in practice have to pay large amounts of money out-of-pocket, often as illegal under-the-table-payments, to secure health care. Estonian citizens have excellent access to primary care services. Family practices now cover the whole country with good provision in rural areas. Citizens are able to access their physicians by phone or secure an appointment to see them with ease. Surveys show that the access and accessibility of PHC are excellent.

Analysis of efficiency indicators show improvements in both allocative and technical efficiency, while financial sustainability has been achieved so far through the provider payment system and investment in PHC by the HIF – which has been maintained at fairly constant levels. The hospital sector has been effectively rationalized and activities in primary care increased significantly. However, the payment levels in real terms for family physicians have declined at constant prices and this is a source of concern for the family physicians and the FM Association.

The analysis of effectiveness shows that PHC level is now beginning to exercise effective gate keeping for chronic illness with increased consultations in PHC with reduced admissions to hospitals. It was not possible to undertake this analysis for acute conditions commonly managed in PHC setting as the data from the HIF was not available for analysis. Analysis of data for chronic illnesses also shows an improvement in the quality of care provided for key chronic illnesses and application of evidence based medicine. The trends for pharmaceutical utilization show an increase in use of effective drugs and a decline in the use of drugs that are less effective or have no value in treating particular illnesses. Analysis of trends were done but without detailed statistical analysis of the significance levels. Such an analysis is beyond the scope of this report.

The citizens are able to exercise choice – geography permitting – and change their family physicians. The system is responsive to user needs with the majority of the patients expressing satisfaction with access to services when needed.

In terms of health systems goals of health, satisfaction and financial protection the system has performed well. Direct attribution of the changes in these outcomes and the primary care reforms is not possible with the data available. However both the life expectancy and the infant mortality have improved significantly in the last 10 years. Surveys indicate high satisfaction levels with general medical care and family medicine. In terms of income protection out of pocket expenditures continue to increase and in the medium term this trend is likely to be sustained.

17.2. Challenges

A number of challenges remain and need to be addressed to build on the successful PHC reforms. These include, but are not limited to:

(i) Human resource shortage, which is exacerbated by emigration of health professionals to neighbouring countries, is a key problem. This shortage is likely to worsen now that Estonia has become a member of the EU. In particular, there is a shortage of family nurses who feel their skills are undervalued

(ii) Low income levels for PHC professionals are creating barriers to entry into practice and increasing risk — in the last few years, at constant prices, there have been no increases at income levels of family physicians. This needs to be addressed as increasing cost base without corresponding increase in income increase the risks for financial stability,

(iii) Out-of-pocket expenditures are increasing and this may adversely affect the doctor-patient relationship if further cost sharing is introduced at PHC level.

(iv) Health expenditure levels that are well below the EU average and need to be increased to meet expanding demand – lengthening waiting lists is a cause for concern and a source of dissatisfaction

(v) Health expenditures for primary care as compared with hospital care are low by European standards. In particular PHC infrastructure is in need of capital investment to bring PHC centres to a standard that will encourage provision of expanded services, enable development of extended PHC and achieve secondary-to-primary shift

(vi) Fragmented first contact element of primary care remains a structural weakness that needs to be addressed — with multiple providers who provide ambulatory care (outpatient) services and who can be accessed by citizens without referral to – this may gradually

(vii) High land and rent prices in cities, especially Tallinn – which makes it difficult for the family physicians to secure appropriate premises and increase financial risk to family physicians. This risk is actively discouraging young residents and graduates of FM training programmes from entering practice

(viii) Limited incentives for high performers and a lack of monitoring and evaluation systems that can be used to reward high quality care and innovative practice

(ix) There is limited flexibility at practice level to reconfigure human resource requirements to enable more efficient use of available skills

(x) Existing legislative framework prevents development of partnerships, appointment of part-time family physicians with personal lists and expansion of a practice size beyond 2,000 patients. This limits flexible working practices and is a barrier to faculty who have appointments at university but also women practitioners who wish to practice part time because of family commitments.

(xi) Although Estonia has achieved impressively high health insurance coverage of 94% of the population, six percent of the citizens do not have access to health insurance and face catastrophic financial risk. This needs to be addressed in the short term.

17.3. Monitoring and Evaluation Systems for PHC

The Estonian health system has developed good information systems for collecting input and activity data. Health Insurance Fund has a wealth of data that are not analysed on a regular basis to monitor and evaluate achievements of HC reforms and to inform PHC policies.

This study was able to test the feasibility of utilizing existing data to assess changes in policy objectives of equity, efficiency, effectiveness and choice at PHC level. Current indicators which are predominantly input based can be expanded to include outcome indicators.

The data that are regularly collected and the cross sectional studies that are undertaken it is possible to develop a core data set to monitor and evaluate changes in equity, efficiency, effectiveness and choice. These suggested indicators are shown in annex 8.

18. Annexes

18.1. Annex 1

Terms of Reference

Advisory support to Primary Health Care Evaluation model

Background

Estonia started health system reform processes in 1991 moving from state financed health care to social insurance based health care. There have been several important changes since then.

Preparation for changes in primary health care started from 1993 when family medicine was defined as a specialty and a new curriculum for teaching family medicine was developed. Training in family medicine was carried out as postgraduate training in Tartu University.

In 1998, a transition period of reorganisation of primary medical care system started. The aim was to create more motivation for well trained family physicians to provide high quality and appropriate service to their patients. The aim was also to develop a system facilitating continuing relationship with a well defined group of people and to make the service primarily person-centered, rather than disease centered. Therefore family physicians were positioned as independent contractors with health insurance fund servicing their list of patients.

The payment system was developed to stimulate the full range of activities within the domain of general practice. The system has to ensure the delivery of health promotive, curative and preventive services as well as other aspects of practice like general availability, keeping an information system and maintaining the premises and equipment.

The transition period was planned for 5 years. In 2003 the well functioning system was planned to be in place.

Purpose of technical assistance

Today in year 2003 we would like to evaluate the current state of the system. The main question is whether all the mechanisms we introduced have helped us to achieve our policy goals.

To answer this question in a more systematic way we plan to develop an evaluation framework to assess the current situation and to compare it with the set policy objectives (and previous situation if data is available.)

The main policy objectives were following:

1. equal and easy access to family physicians services (geographical, time, financial)
2. equitable distribution of health care resources
3. integrated provision of health promotive, preventive and curative services
4. improved responsiveness to patients needs
5. acceptability of PMC services for patients
6. optimal resource quality - qualified (specially trained) family physicians, practice equipment etc
7. optimal and efficient usage of health care resources

Planned activities for an external consultant

1. Advise local experts in developing a frame for evaluation model based on key policy objectives of Estonian primary medical care system
2. Develop a set of indicators measuring the aims
3. Analyse the data availability and if necessary make proposals for additional data collection.
4. Describe the current state of primary medical care and point out the important successes and basic problems and shortcomings

Deliverables

1. Report describing the primary health care evaluation model with explanations about availability of information and validity of available information
2. Report evaluating the current state of PMC an also providing historical comparison if data are available.

18.2. Annex 2

Key Informants Interviewed

Ministry of Social Affairs

1. Dr Külvar Mand, Deputy Minister, Ministry of Social Affairs
2. Dr Katrin Saluvere, Deputy Secretary General for Health Policy, Ministry Of Social Affairs
3. Dr Agris Koppel, Head Of Healthcare Policy Unit, Ministry of Social Affairs
4. Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry of Social Affairs

Ministry of Social Affairs, Department of Health Statistics

5. Ms Kaja Kuivjõgi, Head Of Health Information and Analysis Department, Ministry Of Social Affairs
6. Ms Luule Sakkeus, Head of The Health Statistics Unit, Ministry Of Social Affairs
7. Ms Natalja Jedomskihh, Analyst, Ministry Of Social Affairs
8. Ms Merike Rätsep, Statistician, Ministry Of Social Affairs

World Health Organisation

9. Dr Jarno Habicht, Liaison Officer, WHO LO for Estonia

Estonian Health Insurance Fund

10. Dr Arvi Vask, Member of Management Board, Estonian Health Insurance Fund
11. Ms Maie Thetloff, Head of Health Economics Department, Estonian Health Insurance Fund
12. Dr Helvi Tarien, Head of Health Services Department, Estonian Insurance Fund

Tallinn City Health Department

13. Ms Külliki Kasur, Chief Specialist, Tallinn City Health Department

Family Practices

- (i) Family Practice near Tallinn
 14. Family Practitioner
 15. Family Nurse
- (ii) Riisipere
 16. Dr Eda Arusoo, family physician, Vasalemma Family Practice
 17. Practice Nurse
- (iii) Tõstamaa
 18. Dr Madis Veskimägi, family physician, Tõstamaa Health Centre
 19. Practice Nurse
- (iv) Pullerits ja Peda
 20. Dr Liivia Pullerits, family physician, OÜ Pullerits & Peda Family Practice

21. FM resident in training
(v) Telliskivi PAK
22. Dr Iris Koort, Family physician, OÜ Telliskivi Family Practice

Department of Family Medicine, University of Tartu

23. Dr Heidi-Ingrid Maaros, professor, Head of Department of Family Medicine, Tartu University
24. Dr Ruth Kalda, associate professor, Department of Family Medicine, Tartu University

Department of Internal Medicine, University of Tartu

25. Dr Margus Lember, Professor, Head of the Internal Medicine Department, University of Tartu

Department of Public Health, University of Tartu

26. Dr Kaja Põlluste, chief associate professor, Department of Public Health, Tartu University

Tartu City Government

27. Dr Sirje Kree, Tartu City Doctor, Tartu City Government

Estonian Family Doctors Association

28. Dr Madis Tiik, Chairman, Estonian Family Doctors Association
29. Dr Diana Ingerainen, family physician, Estonian Family Doctors Association

Tallinn Ambulance Centre

30. Mr Mihkel Tamme, Head of Disaster Medicine Unit, Health Care Board
31. Ms Pille Kadakas, Chief Specialist, Ambulance Unit, Health Care Board
32. Dr Raul Adlas, Chief Physician, Tallinn Ambulance Centre

Estonian Family Nurses Association

33. Ms Silja Mets, Estonian Family Nurses Association

Estonian Health Board Care

34. Dr Heidi Gil, at assignment of Director General, Health Care Board
35. Dr Peeter Mardna, Head of Supervision Unit, Health Care Board

18.3. Annex 3

Work Instructions of Family Physician

Regulation No. 117 of the Minister of Social Affairs of 29 November 2001

The Regulation is enacted pursuant to subsection 8(6) of the Health Services Organisation Act ([RT I 2001, 50, 284](#))

1. General provisions

(1) A family physician is a specialist who has acquired the corresponding speciality and completed the medical residency or passed the relevant specialist courses and the qualification examination of a family physician.

(2) A family nurse is a nurse or midwife who works with a family physician and has acquired the corresponding speciality and completed specialist in-service training courses for family nurses.

(3) A family physician provides together with a family nurse general medical care, advises on nursing and the prevention of diseases, injuries or intoxication all the persons entered in his or her practice list.

(4) A family physician shall work together with at least one family nurse.

(5) A family physician shall make the initial medical decision about the problem for which a patient is consulting the physician.

(6) A family physician shall provide medical care immediately himself or herself or, depending on the state of the patient, arrange the provision of medical care by other health care providers by referring the patient to a specialist doctor for consultation or to a hospital.

(7) (Repealed - Regulation No. 124 of the Minister of Social Affairs of 9 October 2002, entered into force 21 October 2002 - [RTL 2002, 118, 1722](#)).

(8) A family physician shall proceed from the state of health of a patient when providing and arranging the provision of general medical care and ensure a patient the best care needed and available under contracts.

(9) A family physician shall ensure the accessibility and continuity of health services to persons entered in his or her practice list in cooperation with specialist doctors to the extent and pursuant to the procedure prescribed in this Regulation.

(10) A family physician shall conduct medical tests and procedures pursuant to sections 5 and 6 of the Regulation No. 121 of the Minister of Social Affairs of 3 October 2002 the Procedure for the Assumption of a Payment Obligation of an Insured Person by the Health Insurance Fund and the Methods for Calculation of

the Payments to Be Made to Health Care Providers ([RTL 2002, 118, 1719](#); [2003, 16, 221](#); [75, 1103](#); [94, 1410](#); [96, 1448](#)).

(Regulation No. 112 of the Minister of Social Affairs of 26 September 2003, entered into force 11 October 2003 - [RTL 2003, 105, 1612](#)).

2. Tasks of a family physician

(A) The tasks of a family physician are the following:

- 1) health promotion and disease prevention by the assessment of health risks, physical examinations, individual health education, medical counselling, immunisation and medical screening tests;
- 2) diagnosis of diseases and treatment of patients;
- 3) referral of a patient to active care or nursing care in cooperation with specialist doctors, nurses, midwives, social workers and local governments;
- 4) preparation of documents related to the certification of the provision of health care services and the practice list of the family physician;
- 5) preparation of reports on health care statistics and economic activities in the field of health care and submission of these to the county governor;
- 6) Arrangement of administration pursuant to the procedure provided by law.

(B) The consultation of a family physician includes the following activities:

- 1) interview with the patient and history-taking;
- 2) physical examination of the patient, compilation of medical tests and treatment plan, making of a diagnosis;
- 3) counselling on health maintenance and recovery;
- 4) counselling on working and living arrangements;
- 5) recommendation and prescription of drugs;
- 6) provision of treatment;
- 7) performance of laboratory tests;
- 8) issuance of documentation related to the provision of health care services.

(C) A family physician shall make, upon necessity, house calls to patients entered in his or her practice list.

(D) A family physician shall participate at specialist courses, seminars, conferences and other training sessions at least 60 hours a year.

3. Tasks of a family nurse

(A) The tasks of a family nurse are the following:

- 1) monitoring of the physical and mental development of a healthy baby/child; performance of periodic physical examinations;
- 2) educating of parents and family and counselling on the hygiene, care, physical activity, disease prevention and diet of a child;
- 3) counselling of patients on family planning and sexual health;
- 4) monitoring of normal pregnancy, counselling of pregnant women on diet and physical exercise, preparation of a future mother and father for delivery, motherhood and fatherhood;
- 5) monitoring of the health of the elderly, educating the elderly to cope with their health and age-related problems;

- 6) ordering and proper discarding of vaccines and keeping records of and time schedule for immunisation, and immunisation;
- 7) determination of the need for nursing care and preparation of a nursing plan, provision of outpatient nursing care and nursing care at the home of patients;
- 8) management of waste disposal.

(B) The independent reception hours of a family nurse shall be at least 10 hours a week.

(C) A family nurse shall participate at specialist courses, seminars, conferences and other training sessions at least 60 hours a year.

4. Accessibility of general medical care

(1) The reception hours of a family physician shall be at least 20 hours a week added by the hours for house calls.

(2) The reception hours shall be during the hours of 8.00-18.00 every working day; the practice premises of a family physician shall be open at least eight hours a working day.

(3) A patient with acute health problem shall be received the day of contacting the physician, in other cases a patient shall be received within three working days.

(4) A family physician shall inform people of where and who the persons can turn to in order to receive medical care outside the reception hours of the family physician.

(5) A family physician may provide general medical care during evening and night hours and on days off according to a contract concluded with the Estonian Health Insurance Fund.

18.4. Annex 4

PAYMENT FOR GENERAL MEDICAL CARE

1. Payment for general medical care

(1) The health insurance fund shall pay a family physician providing general medical care capitation fee, basic fee and additional fee for the provision of services to an insured person on the basis of the reference price for capitation fee, basic fee and additional fee specified in the list of health services as a monthly advance payment.

(2) The health insurance fund shall pay a family physician additionally on top of the amounts specified in subsection 1 of this section on the basis of the medical bills completed after the provision of services set in subsection 6(1) of this Regulation by taking account of the financial restriction specified in the same subsection.

(3) A family physician who provides general medical care on an island with a population of less than 500, shall receive capitation fee with a coefficient of up to 3.0. The coefficient rate shall be agreed upon in a contract concluded between the family physician and the health insurance fund.

2. Payment for services provided financed out of the capitation fee.

(A) The health insurance fund pays for the following services provided by a family physician out of the capitation fee:

- 1) health promotion and disease prevention;
- 2) outpatient consultation and house calls;
- 3) physical examination, compilation of medical tests and treatment plan, diagnosis;
- 4) counselling on health maintenance and recovery, work and living arrangements and prescription of treatment upon necessity;
- 5) recommendation and prescription of drugs;
- 6) performance of medical procedures;
- 7) completion of documents certifying the provision of services;
- 8) making of an initial expert medical assessment of the work capacity and state of health of a patient;
- 9) arrangement of the transportation of a patient to hospital upon necessity.

(B) The health insurance fund pays for the following medical tests and procedures performed by a family physician out of the capitation fee:

- 1) arresting of an haemorrhage;
- 2) resuscitation;
- 3) splinting of a patient for transportation;
- 4) palpation of mammary glands;
- 5) palpation of prostate gland;

6) detection of lessening of hearing, screening test for hearing;
7) (Repealed - Regulation No. 107 of the Minister of Social Affairs of 8 August 2003, entered into force 25 August 2003- [RTL 2003, 94, 1410](#));

- 8) otoscopy;
- 9) lavage of the external auditory meatus;
- 10) rhinoscopy;
- 11) nasopharynx tamponade;
- 12) visual acuity test;
- 13) preliminary testing of vision fields;
- 14) colour vision testing;
- 15) fundoscopy;
- 16) PEF metrics;
- 17) anthropometrics;
- 18) making and assessing of EKG;
- 19) venous puncture;
- 20) injection;
- 21) dressing of wounds (except patients with burns);
- 22) local anaesthesia;
- 23) peripheral neural blockades;
- 24) lavage of urinary bladder;
- 25) assessment of the psychomotor development of an baby/child.

(C) The health insurance fund pays for the following laboratory investigations out of the capitation fee:

- 1) albumin;
- 2) glucose in biological fluids;
- 3) protein in biological fluids;
- 4) creatinine;
- 5) urea;
- 6) bilirubin;
- 7) bilirubin fractions;
- 8) uric acid;
- 9) cholesterol;
- 10) cholesterol fractions;
- 11) triglycerides;
- 12) lactate dehydrogenase;
- 13) alkaline phosphatase;
- 14) aspartate aminotransferase (AST);
- 15) alanine aminotransferase (ALT);
- 16) bleeding time (plain method);
- 17) coagulation time;
- 18) blood testing;
- 19) microscopic examination of thrombocytes;
- 20) microscopic examination of reticulocytes;
- 21) plain haemogramme;
- 22) pathological haemogramme;
- 23) urinalysis;
- 24) helminth egg test;

- 25) lamblia test;
- 26) occult blood test;
- 27) rectal scraping test;

(D) Payment of Specialists

A family physician pays a specialist health care provider for medical tests, treatment procedures and laboratory tests payable out of the capitation fee in the cases where the family physician has referred a patient to a specialist doctor without performing the medical tests financed out of the capitation fee.

(E) Second Opinion

Giving of a second opinion by a family physician is a service provided out of the capitation fee.

3. Additionally remunerated services

(1) The health insurance fund pays extra for the services provided by a family physician out of the capitation fee in the extent of up to 20.5 % of the total capitation fee allocated for the practice list to perform the following medical tests, procedures and laboratory tests:

Medical tests, procedures and laboratory tests	Code of health service
Biopsy	7004
Cavity puncture	7005
Massage of patient with paresis	7011
Swimming session for patient with reduced mobility	7014
Remedial gymnastics (physical therapy)	7016
Remedial gymnastics session in swimming pool	7017
Mud therapy session for patients with ankylosis	7022
Diathermocoagulation, cryotherapy	7025
Excision of surface (minor) cutaneous and subcutaneous tumours	7100
Treatment of trophic ulcer	7100
Drainage of skin abscess	7100
Drainage of finger abscess	7100
Resection of ingrown nails	7100
Suturation of wounds	7101
Outpatient dressing of burns	7111
Catheterisation	7159
Insertion of indwelling catheter	7160
Change of catheter (epicystotomy)	7162
Urinary ladder lavage and administration of medicine into bladder (outpatient procedure)	7163
Insertion and removal of intrauterine contraceptive device	7352
Gynaecological examination with sampling for analysis	7359
Oesophagogastroduodenoscopy	7551–7553

Sigmoidoscopy	7556
Colonoscopy	7557–7558
Fibrebronchoscopy	7559
Rectoscopy	7562
Colposcopy	7563
Skull roentgenography	6061–6062
Spinal column roentgenography	6063–6064
Bone and joint roentgenography	6065–6066
Chest roentgenography	6067–6068, 6070
Nasal sinuses roentgenography	6069
Nasolaryngeal roentgenography	6087
Urinary tract roentgenography	6071
Mammography	6074
Cardiac, pulmonary, mediastinum and diaphragm roentgenography	6076
Gastric roentgenography	6078–6079
Irrigoscopy	6081
General abdominal roentgenography	6086
Urography	6088–6089
Bone densitometry	6112
Radiorenography	6165
Electroencephalographic examination with digital-computerised EEG equipment	6250
Electroencephalography	6251
Exercise Stress EKG Test	6324
Holter monitoring	6326
Echocardiography	6327–6330
Spirography	6301
Bronchodilator test	6302
Pure tone audiometry	6402
Timpanometry	6408
Sonography	6001–6003, 6009, 6010, 6012
Alpha-HBDH	6501i
Cholinesterases	6501m
Potassium, sodium, iron, copper, calcium, phosphorus, magnesium, ammonia, lithium, lactate	6502a–6502k
Acid phosphatase	6502m
Prostate tumour hypoxic fraction	6502n
Gamma-glutamyltransfer	6502o
Creatine kinase	6502p
Latex slide test for C-reactive protein	6502r
Latex slide test for rheumatoid factor	6502s
Latex slide test for anti - streptolysin O (ASO)	6502t

Protein film electrophoresis	6503d
Iron-binding capacity	6503e
Quantitative concentration of C-reactive protein	6504a
Alpha amylase	6504d
Glycosylated haemoglobin	6506a
Quantitative concentration of anti - streptolysin O	6506b
Quantitative concentration of rheumatoid factor	6506c
Protein gel electrophoresis	6506d
Glycated haemoglobin	6513
Activated partial thromboplastin time (APTT)	6553a
Prothrombin index	6553b
Fibrinogen	6553g
<i>Lupus erythematosus</i> cells	6580
Microscopic examination of original material	6701
Bacterial culture	6710a
Fungal culture	6710b
<i>Trichomonas</i> test	6710c
<i>Neisseria gonorrhoeae</i> , <i>Ureaplasma urealyticum</i> and <i>Mycoplasma hominis</i> test	6713a, 6713b, 6713c
Mycobacterial culture	6714
Anaerobic culture	6716a
Chlamydia test (tissue culture)	6716b
Virus test (tissue culture)	6716c
Identification of disease agents	6720–6722
Drug sensitivity testing for disease agents	6725a, 6725b, 6726, 6727
Express diagnostics of syphilis	6730–6732
Diagnostics of respiratory viral infections	6733
<i>Chlamydia trachomatis</i> , <i>Neisseria gonorrhoeae</i> and the human papilloma virus <i>Gen probe</i> tests	6741–6743
ABO and Rh blood typing	6771–6780
Tumour marker testing	6816
Immunoglobulins detection test (IgG, IgM)	6818
Antigen detection test	6818, 6820, 6822, 6824, 6843
Anti-HIV-1/HIV-2 detection test	6822, 6824, 6825
Hormone, AFP and HCG tests by chemiluminescent method (LIA method) (single parameter)	6834a
Tests for tumour, anemia etc markers, drugs and specific antibodies by chemiluminescent method (LIA method) (single parameter)	6834b
Identification of interleucins, erythropoetin, deoxy pyridinoline, etc by chemiluminescent method (single parameter)	6834c
Radio immunoassay by radioisotope method (single parameter) (RIA method)	6834d

Immunofluorescence test (IF-test) (single antigen)	6835a
Immunofluorescence test for autoantibodies (nucleus, mitochondrion, smooth muscles, parietal cells, thyroid gland, IgG endomysium, etc antibodies)	6835b
Immunofluorescence test on commercial slides	6836
HIV verification	6843a, 6843b
Allergen detection test	6844–6849
Spirochete immobilisation test	6736
Histology tests	6901–6903
Cytology tests	6911–6913»

4. Payment of base fee and additional fee

(A) The health insurance fund pays base fee and additional fee with a coefficient of up to 1.5 if a family physician has several practice premises and these are located in separate towns or villages due to administrative territorial division and upon the satisfaction of the following conditions:

- 1) all the practice premises of a family physician are in compliance with Regulation No. 116 of the Minister of Social Affairs of 29 November 2001 the Requirements for the Rooms, Fittings and Equipment of the Practice Premises of a Family Physician » ([RTL 2001, 130, 1886](#))
- 2) the number of persons on the practice list of a family physician does not exceed the maximum numbers set in Regulation No. 113 of the Minister of Social Affairs of 29 November 2001 the Maximum Number of Persons on Practice List of Family Physician, and the Bases of and Procedure for the Compilation, Amendment and Comparison of Practice List of Family Physician » ([RT I 2001, 130, 1883](#));
- 3) the reception hours of a family physician in the other practice premise(s) are at least 3 hours a week;
- 4) the other practice premise(s) of the family physician are located further than 10 kilometres from the main practice premises of the family physician.

(B) A family physician may use the base fee for the provision of the following services:

- 1) annual training for the family physician and a family nurse working with the family physician at least to the extent provided in the Regulation No. 117 of the Minister of Social Affairs of 29 November 2001 the Work Description of a Family Physician ([RTL 2001, 130, 1887](#))
- 2) purchase, lease and maintenance of medical devices costing over 300 kroons;
- 3) payment for the use of the rooms of the family physician's practice premises;
- 4) purchase and maintenance of hard and software required for the work of family physician;
- 5) purchase, rental and maintenance of motor vehicles;
- 6) payment of the insurance premia for the rooms, fittings and equipment of the practice premises of a family physician on the basis of a property insurance contract.

18.5. Annex 5

Requirements for the Rooms, Fittings and Equipment of the Practice Premises of a Family Physician.

Regulation No. 116 of the Minister of Social Affairs of 29 November 2001

Scope of application

This Regulation establishes the requirements for the rooms, fittings and equipment of the practice premises of a family physician.

2. Requirements for the rooms of the practice premises of a family physician

- (i) The rooms of the practice premises of a family physician (hereinafter the rooms) may be located on the premises designed and built for the provision of health care services or any other premises designated for public use.
- (ii) The rooms may be planned in residential buildings when separated from residential rooms on the following conditions:
 - a) the entrance to the rooms is separated from the entrance to residential rooms;
 - b) all the apartment owners or the apartment association have given a written consent to establish a common entrance;
- (ii) The practice premises of a family physician shall consist of the following rooms at least:

Name of the room	Area (m ²)
Reception room	12 x 2 or 16
Procedures room	16
Waiting lounge	9
WC	3
Auxiliary room	2x2

- (iv) The area of the rooms may be up to 5 per cent smaller than prescribed in this section.
- (v) Family physicians who practise together shall have at least one procedures room per three physicians.
- (vi) The reception and procedures room shall not be located on the basement level, i.e. on a level where the floor is under ground for more than half of the height of the room, nor in rooms where the height of the room is below 2.5 metres.
- (vii) The rooms shall be accessible for persons in wheelchairs and those delivered on a stretcher.
- (viii) The rooms may be designed with building and fitting materials the producer certificate of which has been approved by the Health Protection Inspectorate.

- (ix) All the surfaces of the rooms shall be smooth, made of impervious materials to enable wet cleaning of the rooms and disinfection.
- (x) The rooms shall be equipped with hot and cold water and sewage.
- (xi) The rooms shall have exhaust ventilation system which must ensure microbiologically clean air.
- (xii) All the rooms shall have artificial light. The reception and procedure rooms and waiting lounge shall have also natural light.
- (xiii) The reception room(s) shall have access points to communication and computer network systems.

3. Requirements for the fittings of the practice premises of a family physician

- (i) The practice premises of a family physician shall contain the following:
 - a. a desk and chair for the physician;
 - b. a desk and chair for the nurse;
 - c. chairs for the patient and person(s) accompanying the patient;
 - d. a closet with a work surface for the equipment;
 - e. medical couch and gynaecologic examination table or a universal examination table;
 - f. table for instruments;
 - g. examination table for babies;
 - h. facility for testing visual acuity;
 - i. adult and child weighting scale;
 - j. baby weighting scale;
 - k. height measuring scale;
 - l. PC and printer;
 - m. ceiling lamp or portable medical lamp;
 - n. refrigerator for storing vaccines.
- (ii) The reception room shall have a separate dressing area for patients.

4. Requirements for the equipment of the practice premises of a family physician

- (i) The installation and use of equipment of the practice premises of a family physician shall comply with requirements set for occupational safety.
- (ii) The practice premises of a family physician shall contain the following:
 - a. stethophonendoscope;
 - b. sphygmomanometer;
 - c. otoscope;
 - d. ophthalmoscope;
 - e. nasal specula;
 - f. PEF meter;
 - g. foetoscope;
 - h. reflex hammer;
 - i. tuning fork;
 - j. splints;
 - k. instruments for minor surgery;
 - l. haemoglobin and glucose analysis facilities;
 - m. visual acuity and colour vision testing charts;
 - n. ECG;
 - o. gynaecological specula;
 - p. pelvimeter;

- q. ear lavage device;
- r. infusion systems and stand;
- s. adult and child face shield and Guedel airway;
- t. manual resuscitation appliance.

18.6. Annex 6

Meetings and interviews during the first visit 7-10 December 2003

Monday, 08.12.2003

- 09:00-10:00 Dr Rifat Atun's report and elucidations. Participants: Ivi Normet, Marek Seer, Jarno Habicht, Agris Koppel
- 10:00-10:30 Discussion. Participants: Dr Atun Rifat and Agris Koppel
- 10:30-11:30 Discussion. Participants: Dr Atun Rifat, Agris Koppel, Arvi Vask
- 13:30-15:00 Discussion. Participants: Dr Atun Rifat, Kaja Põlluste, Dr Jarno Habicht
- 15:00-15:30 Conclusions
- 15.30-17.00 Review of the days meetings: Dr Atun Rifat and Jarno Habicht

Tuesday, 09.12.2003

- 10:00-11:00 Discussion. Participants: Dr Atun Rifat, Katrin Saluvere.
- 12:00-13:00 Discussion. Participants: Dr Atun Rifat, Madis Tiik.
- 13.00-14.00 Debriefing meeting Dr Atun Rifat and Jarno Habicht

18.7. Annex 7

Meetings and interviews held during the second visit of the consultant

Date	Name and Position
26.01.2004 (Mon)	Dr Külvar Mand, Deputy Minister, Ministry of Social Affairs Dr Katrin Saluvere, Deputy Secretary General For Health Policy, Ministry Of Social Affairs Dr Agris Koppel, Head Of Healthcare Policy Unit, Ministry of Social Affairs Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry of Social Affairs Dr Jarno Habicht, Liaison Officer, WHO LO for Estonia
26.01.2004 (Mon)	Dr Jarno Habicht, Liaison Officer, WHO LO for Estonia Dr Agris Koppel, Head Of Healthcare Policy Unit, Ministry Of Social Affairs
26.01.2004 (Mon)	Ms Kaja Kuivjõgi, Head Of Health Information and Analysis Department, Ministry Of Social Affairs Ms Luule Sakkeus, Head of The Health Statistics Unit, Ministry Of Social Affairs Ms Natalja Jedomskihh, Analyst, Ministry Of Social Affairs Ms Merike Rätsep, Statistician, Ministry Of Social Affairs Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
26.01.2004 (Mon)	Dr Agris Koppel, Head Of Healthcare Policy Unit, Ministry Of Social Affairs Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
27.01.2004 (Tue)	Dr Arvi Vask, Member of Management Board, Estonian Health Insurance Fund Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
27.01.2004 (Tue)	Ms Maie Thetloff, Head of Health Economics Department, Estonian Health Insurance Fund Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
27.01.2004 (Tue)	Ms Külliki Kasur, Chief Specialist, Tallinn City Health Department
27.01.2004 (Tue)	Dr Eda Arusoo, family physician, Vasalemma Family Practice Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry Of Social Affairs
27.01.2004 (Tue)	Dr Madis Veskimägi, family physician, Tõstamaa Health Centre Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry Of Social Affairs
28.01.2004 (Wed)	Dr Heidi-Ingrid Maaros, professor, Head of Department of Family Medicine, Tartu University Dr Ruth Kalda, associate professor, Department of Family Medicine, Tartu University Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia

Date	Name and Position
28.01.2004 (Wed)	Dr Margus Lember, Professor, Head of the Internal Medicine Department, University of Tartu Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
28.01.2004 (Wed)	Dr Sirje Kree, Tartu City Doctor, Tartu City Government Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
28.01.2004 (Wed)	Dr Liivia Pullerits, family physician, OÜ Pullerits & Peda Family Practice Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
28.01.2004 (Wed)	Dr Ruth Kalda, associate professor, Department of Family Medicine, Tartu University Dr Kaja Põlluste, chief associate professor, Department of Public Health, Tartu University Dr Heidi.Ingrid Maaros, professor, Head of Department of Family Medicine, Tartu University Dr Margus Lember, Professor, Head of the Internal Medicine Department, University of Tartu Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
29.01.2004 (Thu)	Dr Madis Tiik, Chairman, Estonian Family Doctors Association Dr Diana Ingerainen, family physician, Estonian Family Doctors Association Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
29.01.2004 (Thu)	Mr Mihkel Tamme, Head of Disaster Medicine Unit, Health Care Board Ms Pille Kadakas, Chief Specialist, Ambulance Unit, Health Care Board Dr Raul Adlas, Chief Physician, Tallinn Ambulance Centre Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
29.01.2004 (Thu)	Ms Silja Mets, Estonian Family Nurses Association Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
29.01.2004 (Thu)	Dr Iris Koort, Family physician, OÜ Telliskivi Family Practice Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry Of Social Affairs
30.01.2004 (Fri)	Dr Helvi Tarien, Head of Health Services Department, Estonian Insurance Fund Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
30.01.2004 (Fri)	Dr Heidi Gil, at assignment of Director General, Health Care Board Dr Peeter Mardna, Head of Supervision Unit, Health Care Board Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia
30.01.2004 (Fri)	Dr Katrin Saluvere, Deputy Secretary General for Health Policy, Ministry Of Social Affairs Dr Agris Koppel, Head Of Healthcare Unit, Ministry Of Social Affairs Dr Jarno Habicht, Liaison Officer, WHO LO For Estonia Mr Marek Seer, Chief Specialist, Healthcare Department, Ministry Of Social Affairs

18.8. Annex 8

Indicators for a core data set for monitoring and evaluation of PHC

Equity Indicators

Table 19. Equity indicators

Indicators
Access to PHC : Percentage of the population covered by health insurance for family physicians services (and % uninsured) Disaggregated by: urban and rural residence; socio-economic status (income by quartile); age groups; gender income groups
Accessibility: Distance from nearest PHC centre Disaggregated by: urban and rural residence; socio-economic status (income by quartile); age groups; gender income groups
Utilization of PHC: Utilization levels of FP practices Disaggregated by: urban and rural location; socio-economic status (income by quartile); age groups; gender income groups
Fairness in financing: Out of pocket expenditure for PHC (home visits and drugs) Disaggregated by: urban and rural residence; socio-economic status (income by quartile); age groups; gender income groups

Efficiency Indicators

Indicators
Allocative efficiency: <ul style="list-style-type: none">• Percentage of health expenditure allocated to PHC
Technical efficiency: <ul style="list-style-type: none">• Average annual number of visits per FP• Average annual number of visits to FPs per citizen• Average number of visits to FP per person in patient list• Ratio of the number of FPs home visits to all visits• Average annual number of visits per Family Nurse• Average annual number of visits to Family Nurse per citizen• Average number of visits to Family Nurse per person in patient list

Effectiveness Indicators

Table 20. Effectiveness indicators: First contact care

Acute conditions
Indicators
<p>Avoidable hospitalizations for acute ENT problems (Otitis media ICD 10 codes H65 and H66 and tonsillitis ICD 10 code J03)</p> <ul style="list-style-type: none"> • Aggregate number of referrals by FPs to hospital outpatients for acute ENT problems (Otitis media ICD 10 codes H65 and H66 and tonsillitis ICD 10 code J03) • Aggregate number of admissions to hospital for acute ENT problems <ul style="list-style-type: none"> ○ Tonsillitis ICD 10 code J03 ○ Otitis media ICD 10 codes H65 and H66 <p>Management of acute ENT problems (Otitis media ICD 10 codes H65 and H66 and tonsillitis ICD 10 code J03)</p> <ul style="list-style-type: none"> • Antibiotic prescribing for ENT <ul style="list-style-type: none"> ○ Tonsillitis ICD 10 code J03 ○ Otitis media ICD 10 codes H65 and H66
<p>Avoidable hospitalizations for acute UTI (ICD 10 code N39.0)</p> <ul style="list-style-type: none"> • Aggregate number of referrals by FPs to hospital for acute UTI (ICD 10 code N39.0) • Aggregate number of admissions to hospital for acute UTI <p>Management of acute UTI (ICD 10 code N39.0)</p> <ul style="list-style-type: none"> • Antibiotic prescribing for acute UTI (ICD 10 code N39.0)
<p>Avoidable hospitalizations for acute LRTI (bronchitis, bronchiolitis, pneumonia) in children aged under 5 (ICD 10 codes J10-18 and ICD 10 codes J20 and J21)</p> <ul style="list-style-type: none"> • Aggregate number of referrals by FPs to hospital for LRTI (bronchitis, bronchiolitis, pneumonia) in children aged under 5 (ICD 10 codes J10-18 and ICD 10 codes J20 and J21) • Aggregate number of admissions to hospital for LRTI in children aged under 5 <p>Management of acute LRTI (bronchitis, bronchiolitis, pneumonia) in children aged under 5 (ICD 10 codes J10-18 and ICD 10 codes J20 and J21)</p> <ul style="list-style-type: none"> • Antibiotic prescribing for LRTI

Table 21. Effectiveness indicators: Continuity of care

Management of Chronic illness
Indicators
<p>Avoidable hospitalizations for hypertension (ICD i10)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital admission for hypertension • Aggregate number of referrals to hospital outpatients for hypertension <p>Management of hypertension (ICD i10)</p> <ul style="list-style-type: none"> • Prescribing patterns for hypertension: Proportion of patients on first line drugs (as specified by evidence-based guidelines)
<p>Avoidable hospitalizations for NIDDM (ICD E11)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital outpatients for NIDDM • Aggregate number of admissions to hospital for NIDDM <p>Management of NIDDM (ICD E11)</p> <ul style="list-style-type: none"> • Ratio of glibenclamide to metformin
<p>Avoidable hospitalizations for asthma (ICD J45)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital outpatients for asthma • Aggregate number of admissions to hospital for asthma <p>Management of asthma (ICD J45)</p> <ul style="list-style-type: none"> • Inhaled corticosteroid to B2 agonist ratio
<p>Avoidable hospitalizations for ischaemic heart disease/angina (ICD i20 & ICD i25)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital outpatients for ischaemic heart disease/angina • Aggregate number of admissions to hospital for ischaemic heart disease/angina <p>Management of ischaemic heart disease/angina (ICD i20 & ICD i25)</p> <ul style="list-style-type: none"> • Prescribing patterns : Proportion of patients with IHD/angina on beta blockers, aspirin and lipid lowering drugs
<p>Avoidable hospitalizations for heart failure (ICD i 50)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital outpatients for heart failure • Aggregate number of admissions to hospital for heart failure <p>Management of heart failure (ICD i 50)</p> <ul style="list-style-type: none"> • Proportion of patients with heart failure who are on ACE inhibitors
<p>Avoidable hospitalizations for depression (ICD F32)</p> <ul style="list-style-type: none"> • Aggregate number of referrals to hospital outpatients for depression • Aggregate number of admissions to hospital for depression <p>Management of depression (ICD F32)</p> <ul style="list-style-type: none"> • Ratio of antidepressants to benzodiazepines

Table 22. Effectiveness indicators: Comprehensiveness

Health Promotion and Prevention
Indicators
<p>Children: Primary prevention / promotion services</p> <ul style="list-style-type: none"> • % immunisation coverage rates in children for BCG, DTP+OPV, Measles Mumps Rubella (MMR) • % children who have had a developmental check
<p>Women: Primary prevention / promotion services</p> <ul style="list-style-type: none"> • % of pregnant women whose full antenatal care is provided by the FP • % of mothers breastfeeding at 3m and 6m
<p>Secondary prevention: adults</p> <ul style="list-style-type: none"> • % CVA patients on preventive medication <ul style="list-style-type: none"> ○ ratio of first stroke to repeat stroke hospitalization <p>% hypertensive patients whose blood pressure is controlled</p>
<p>Screening</p> <ul style="list-style-type: none"> • % coverage for cervical smear in women aged 20-60

Table 23. Effectiveness indicators: Coordination

Indicator
<ul style="list-style-type: none"> • Proportion of PHC Team members involved in local planning

Choice Indicators

Table 24. Choice

Indicators
Proportion of users who have 'chosen' their PHC provider
Proportion of users able to choose a time of appointment of their choice

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