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Actuarial Analysis of Basic Benefits Package Options of Health Care Reform in Macedonia

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INTRODUCTION

This report presents options for basic benefits packages of health care services available to the Macedonian population that would be financed through the compulsory Health Insurance Fund (HIF). The HIF also finances other activities that are not direct health services, such as salary reimbursements and capital requirements of health facilities. These HIF activities are not covered in this report.

During discussions and briefings conducted in Macedonia, it was apparent that the term "basic benefits package" was not used consistently. For some, the term referred to a package of primary care services that would be covered under the compulsory system. For others, the term meant a limited package of health care services, including primary, secondary, and tertiary (outpatient and inpatient), that would be more restrictive than provisions under the current health care law. *As used in this report, the term "basic benefits package" refers to the health care services that would be covered under the compulsory system.* The report develops alternative basic benefits packages. Each alternative includes a different package of compulsory coverage and different rules for participation in the system.

The primary goals for this report are as follows:

- Define a broad scope of coverage for three basic benefits packages: Comprehensive, limited, primary care;
- Develop actuarial models to estimate the costs of each benefits package;
- Modify packages to meet budget constraint;
- Discuss issues raised by each alternative;
- Place the discussion of basic benefits packages in the context of overall health care reform in Macedonia; and
- Identify information (data) needs to improve the ability to design, cost, and manage benefits packages.

The report begins with a brief discussion of the principles which guided the development of the alternative basic benefits packages. The report then discusses the design of a basic benefits package in the context of the broad health sector reforms underway in Macedonia as part of the World Bank sponsored Health Sector Transition Project. For example, the scope of health services that can be included in the basic package will depend, in part, on the success in designing a capitation or other payment system for primary care, and changes in the current system of referrals to secondary and tertiary care. A section of the report then describes the basic approaches to the design of basic benefits packages. The following sections provide the descriptions of the three alternative basic benefits packages and estimate the costs (to both the HIF and individuals) of each package. Based on the design and cost estimate, the report contains a discussion of possible modifications to each package that could be made, and the limitations on the accuracy of the results given current data limitations. The report closes with recommendations with respect to next steps in the process of developing a basic benefits package in the context of ongoing health sector reforms and for improving the information available to both the design and estimation of costs for covered health care services.

BASIC PRINCIPLES FOR DESIGN OF BASIC BENEFITS PACKAGES

The basic structure, services, and financing mechanisms for the Macedonian health care system are contained in other external consultant and local experts reports and will not be repeated in detail here. Basically, the Health Care Law guarantees coverage for a very comprehensive set of health care services, with few, if any, limits on those services. Figure 1 provides a simplified picture of the

financing of health care services in Macedonia. The basic point is that the HIF receives revenues from several sources (the most important of which are payroll taxes on wages and salaries, and payments from the pension fund) and is legally responsible for paying health facilities for the services they provide. A very small share of payments to facilities come from payments (coinsurance) from individuals required to participate in the system. A large segment of the population is not required to participate, and, as a result, only about 5 percent of the total costs of compulsory HIF health care services are paid by individuals.

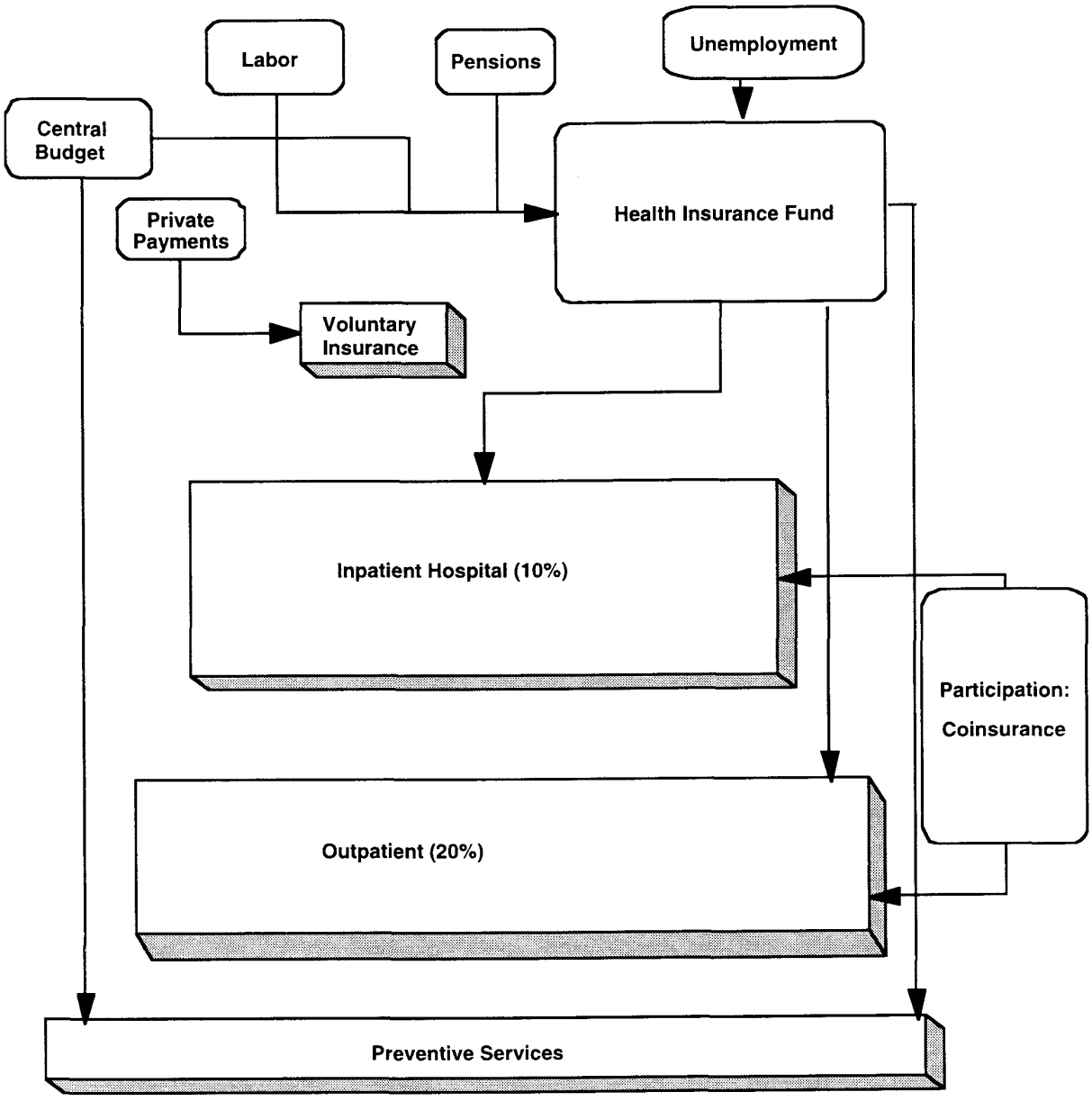

Figure 1: Macedonian Health System: Current Policy (simplified)

* Screening and diagnostic clinical preventive services.
** Immunizations, nutrition education, sanitation, etc., provided by central budget

Given the tradition in Macedonia for comprehensive health coverage and the rights contained in the 1991 Health Care Law, certain principles guided the development of the basic benefits packages including:

- All citizens have the right of access to medically appropriate health care.
- The basic comprehensive benefit structure of the 1991 Health Care Law should be maintained as far as possible.
- The principles of equity and solidarity should be maintained.

However, the HIF faces a serious financial crisis. Revenues into the fund have not been adequate to meet the legal obligations to health facilities. Payments to facilities have been below legal obligations, resulting in significant arrears being accumulated by the HIF. The estimates used in this report show a 1.4 billion denar HIF deficit for 1996. This deficit remains even though significant improvements in compliance with revenue collection and cost-share participation have been made. Given the current economic climate of low wages and high unemployment combined with the already high level of payroll taxes, it is not likely to be feasible to significantly increase revenues going into the HIF. Therefore, the principles above must be combined with reductions in covered services and/or increased participation to meet the budget constraint.

THE BASIC BENEFITS PACKAGE IN THE CONTEXT OF HEALTH CARE REFORMS

The basic benefits package defined here should be viewed as a transition package. A final determination of a benefits package will depend on changes in the structure of revenues (sources of funds), payment mechanisms (capitation, fee schedules, etc.), and delivery structure (gatekeepers, primary care groups, utilization revue) that may be implemented as part of health sector reform. These changes would be designed to introduce incentives for efficiency and promotion of quality of care. As the delivery of services becomes more efficient and the sources of funding are more closely tied to the expected system costs, a more generous benefits package may be possible.

As the system currently exists:

There is a structural mismatch between revenues and expenditures. Revenues are based on a fixed set of tax rates whose growth (changes) are tied to employment, wages, tax compliance, number of pensioners, pension levels, etc. Expenditures are based on population profiles, participation levels, utilization and unit costs (or facility budgets). The different bases for revenues and expenditures in other countries usually results in an imbalance This is the case in Macedonia. The payment and delivery systems do not have incentives for efficient production (or quality of care). Therefore, until the payment and delivery systems are reformed, the only alternatives for keeping expenditures within the budget constraint are to reduce benefits or raise revenues.

BASIC BENEFITS PACKAGE STRUCTURES: THE OPTIONS

As outlined in the RAND consultant's *Report on Benefits and Copayment Structures* (Farley, 1996, draft), there are a number of important considerations in the design of a basic benefits package. These considerations include the basic categories of services included in the package, specifying specific benefit exclusions or limitations, determination of coverage for specific services, and financial participation in the system.

While countries around the world have defined the categories of services to include in benefits packages in many ways, five basic approaches were considered in defining a basic benefits package for Macedonia.

1. Comprehensive Benefit Package. This is the structure of the benefits package contained in the 1991 Macedonian Health Care Law. Comprehensive benefits packages generally cover all medically appropriate inpatient and outpatient services (including both generalist and specialist care), prescription drugs, and some special services (e.g., dental, vision). When specified in law (rather than voluntary), this type of benefits package is generally consistent with the philosophy that access to health services is a right of citizens. Its drawback is that unless the proper incentives and designs are in place and functioning well, comprehensive packages are expensive and can lead to overutilization and cost overruns.

2. Primary Care Package. This type of outpatient coverage ensures that people have access to basic primary and preventive care services. This type of package could also include a range of outpatient diagnostic and treatment services. The purpose of choosing this type of benefit option would be to promote the health of citizens through prevention activities and early diagnosis and treatment of disease and other medical conditions. The major drawback to this approach is that it does not serve the basic function of health insurance -- to protect individuals from unexpected, unpredictable high costs associated with disease or injury through spreading the risk for those costs across a large group of individuals.

3. Limited Compulsory Package Plus Voluntary Supplemental Insurance. In theory, the Macedonian Health Care Law follows this model. However, the compulsory package is so comprehensive that little demand exists for voluntary supplemental insurance. To create a market for supplemental insurance, significant additional services would need to be carved out of the compulsory packages. For example, dental, vision, and outpatient mental health could be excluded from the basic benefits package. These services plus those now excluded from the basic package, such as aesthetic surgery, could be covered under voluntary supplemental insurance.

4. Coverage of Inpatient Hospital Services. This type of benefits package protects individuals from the high costs of treatment of acute health problems in inpatient facilities. Inpatient treatments are generally the most expensive form of care, and the type of care that most people are least able to afford on their own. The motivation for this type of package is to insure individuals against the unpredictable, high cost associated with illness and injury that requires hospitalization. A drawback to this limited type coverage is that it provides an incentive for inappropriate use of hospitalization, which can be very costly to the insurance fund. This type of benefits package can also provide disincentives for primary and preventive care, thereby increasing the burden of disease and increasing health costs to society and reducing the public health.

5. Catastrophic Benefit Package. Under this type of package, a comprehensive (or more limited) benefits package can be designed, but the individual would be responsible for payment of all health costs up to a specified, usually quite high amount. Above this amount, the insurance funds would pay for covered benefits (usually full coverage, but some cost sharing could be imposed). A primary motivation for this approach is to limit insurance fund expenditures while providing protection to a limited segment of the population with very high costs. Drawbacks to this approach include paid benefits for a small segment of the population, disincentives for the use of primary and preventive services, and lack of cost control over the

most expensive types of health care. It should be noted that there are examples of designing catastrophic coverage with a compulsory supplemental primary care package. Such a system could help restrain costs while promoting public health.

Next, the development of three types of basic benefits package: 1) primary care, 2) limited benefits package, and 3) comprehensive care are described.

BASIC BENEFITS PACKAGES: SPECIFYING COVERED BENEFITS, LIMITATIONS, AND PARTICIPATION

In order to fully define a basic benefits package, the covered benefits must be specified, limitations (if any) placed on covered services determined, and the financial participation of the insured delimited. The detailed questions used to define each benefits package are contained in Appendix 1. The questions in the Appendix table are often used by actuaries to specify a benefits package in enough detail to develop cost estimates for a package. Estimates for these basic benefits packages, use these answers to define the benefits packages. It should be noted that it will be necessary for the local counterparts to specify the basic benefits packages in such a way as they conform to Macedonian terms, concepts, and legal requirements, including changes to the 1991 Health Care Law that may be required.

The participation requirements are particularly important for determining the benefits that can be covered within the budget constraint. It is recognized that there are a variety of approaches that can be taken, and that there will likely be controversy and disagreement over both who must participate, and the kinds and levels of participation required. The participation features of the benefits packages identified below rely on several principles including:

- The goal of equity and solidarity contained in the Health Care Law;
- Principles of financial participation designed to promote desired health outcomes and system efficiencies; and
- The budget constraint.

The current health insurance system requires financial participation by individuals, but exempts a large segment of the population from participation. The list of exempt categories has been documented in other reports and will not be repeated here. Of the three types of basic participation -- deductibles, copayments, and coinsurance -- only coinsurance is used in the current system. Although the three types of financial participation (often termed "cost sharing"), are defined in the report on benefits and copayments (Farley, 1996, draft), a brief definition is included here as it is important for the Macedonian reader, who may not be familiar with the terms, to understand the terms as they are used in the three basic benefits packages detailed below.

Deductible. A deductible is an amount that an individual must pay, each year, for health services received, before the HIF would be required to pay for services. An individual is responsible for paying from their own resources for the full cost of health services received until they have paid an amount equal to the annual deductible amount (e.g., 400 denars). The HIF would be paying for services after the deductible is met.

Coinsurance. A coinsurance is a specified percentage of the cost of each service that an individual, rather than the HIF is required to pay for health services. Coinsurance is the type of participation required (e.g., 10 percent for inpatient, 20 percent for outpatient services) under the Macedonian Health Care Law. It should be noted that the term copayment is usually used in Macedonia to describe this type of participation, though as used in this report, copayment is a different approach defined below.

Copayment. A copayment is a requirement that an individual pays a fixed amount (for example, 25 denars), rather than a fixed percentage, per service received.

The benefits packages below require participation by all individuals. It is recognized that some individuals may not have the financial resources to make the required payments, or that there may be some other social reason (e.g., disabled due to military service). The assumption made here is that required payments for some individuals, for some period of time, may be made for them by the government. However, since these payments are made for economic or social reasons, the funds should be paid from the central budget, and not be borne directly by the Health Insurance Fund. It is also anticipated that the number of exemptions would be considerably smaller than under the current system. For example, it seems reasonable that children in families with employed adults and reasonable incomes could contribute to health service payments.

THREE BASIC BENEFITS PACKAGES

The following sections provide specification for three basic benefits package alternatives: one that retains as much of the current comprehensive structure as possible within the budget constraint, one that provides a package of primary and preventive services, and one that limits compulsory benefits and would permit supplemental coverage. It should be noted that each of the packages are based on coverage of general categories of coverage (for example, primary care or inpatient hospital care), and not on a detailed list of the particular medical procedures that would be covered for treatment of specific conditions. As the health reform process continues, it is anticipated that guidelines for medically appropriate treatment and new pricing and payment mechanisms will be developed. This will permit more exact specification of the basic benefits package consequently increasing efficiency. As a result, the level of participation required may be reduced.

Alternative 1: The Comprehensive Basic Benefits Package

- Covers most medically appropriate benefits in Health Care Law;
- No exemption from participation; [1]
- 25 denars per visit copay per primary episode of care;
- 400 denars deductible per person per year required;
- 10 percent coinsurance per inpatient and non-primary outpatient service after deductible is met;
- Maximum out-of-pocket limit of 2,000 denars per year.

Discussion

Figure 2 illustrates the basic structure of the comprehensive basic benefits package. Because the services covered are generous, significant increases in participation are required to keep the system in balance. Separating primary care services from other outpatient services is consistent with the pilot health reform project to design a capitated system of primary care. The use of a fixed denars copayment for each primary care service can be used with either a capitated or the current payment system.

[1] It is recognized that some individuals will not have the resources for required participation. It is assumed that the financing for the required participation for these individuals will not be made from existing HIF resources, but will come from another source such as the central budget.

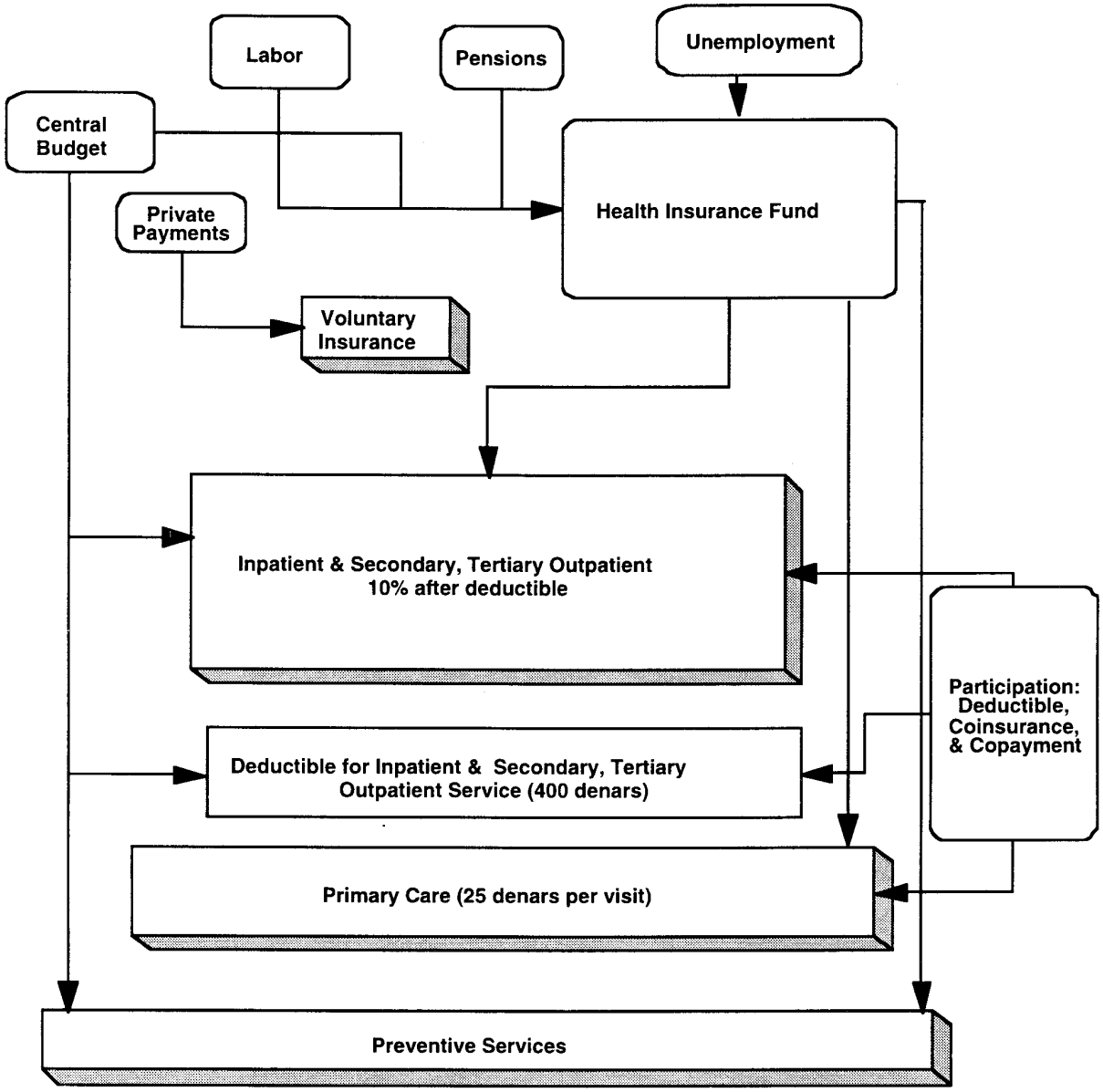

Figure 2: Restructured Comprehensive Benefit Design

COSTS OF COMPREHENSIVE BASIC BENEFITS PACKAGE

Table 1 presents the costs of the comprehensive basic benefits package compared to the current system and the net impact of the HIF budget. Details on the methods used to estimate the system costs can be found in Appendix 4. The estimates for the comprehensive basic benefits package, as well as the other basic benefits packages, are for 1996 and assume a full year's implementation. Given the recent volatility of system costs and revenues, 1996 was used to illustrate the potential effects of change, rather than use more speculative estimates of system costs and revenues for future years.

Table 1

Macedonian Health Care System: 1996 Baseline Costs and Alternative Benefit Packages (in millions of denars)

	Current System			Alternative 1: Comprehensive Package			
	HIF Obligations	Coinsurance	Total Costs	Deductible	Copayments and Coinsurance	HIF Obligations	Total Costs
Expenditures							
Inpatient	3,198	114	3,313	330	282	2,542	3,154
Outpatient	4,163	271	4,434	427	333	3,559	4,319
Other Health Care	1,278	83	1,361	132	120	948	1,200
Other Expenditures	1,946	0	1,946	0	0	1,946	1,946
Past Obligations	673	0	673	0	0	673	673
Total Expenditures	1,258	469	11,727	889	735	9,668	11,292
Revenues	9,864	0	0	0	0	9,864	0
HIF Balance	-1,394	0	0	0	0	197	0

	Alternative 2: Primary Care Package			Alternative 3: Limited Package			
	HIF Obligations	Copayments and Other Out-of-Pocket	Total Costs	Deductible	Copayments, Coinsurance, and Other Out-of-Pocket	HIF Obligations	Total Costs
Expenditures							
Inpatient	0	3,154	3,154	165	282	2,707	3,154
Outpatient	0	0	0	184	909	3,226	4,319
Primary Care	2,931	225	3,156	0	0	0	0
Other Outpatient	0	1,205	1,205	0	0	0	0
Other Health Care	0	1,200	1,200	30	925	245	1,200
Other Expenditures	1,946	0	1,946	0	0	1,946	1,946
Past Obligations	673	0	673	0	0	673	673
Total Expenditures	5,551	5,785	11,335	379	2,116	8,797	11,292
Revenues	9,864	0	0	0	0	9,864	0
HIF Balance	4,314	0	0	0	0	1,068	0

Under the current system, 1996 expenditures by the HIF for health care are expected to be 8.6 billion denars (U.S. $215 million), comprising 3.2 billion denars for hospital services, 4.2 billion denars for outpatient services, and 1.3 billion denars for other health services (primarily prescription drugs and treatments abroad). Combined with other HIF obligations of 2.6 billion denars (wage replacement, orthopedic devices, past obligations) total HIF obligations are expected to be 11.3 billion denars (U.S. $282.5 million) in 1996.[2] With revenues projected to be 9.9 billion denars, the HIF is projected to incur arrears of 1.4 billion denars (U.S. $35 million) in 1996. Under the current system which exempts numerous individuals from participation, coinsurance payments are projected to be about 470 million denars (excluding coinsurance for orthopedic devices) or about 5 percent of total expenditures for health care services. Total health care expenditures are estimated to be 9.1 billion denars.

The comprehensive basic benefits package would reduce total expenditures for health care services. The reductions shown in the table reflect decreased utilization that would result from increases in cost sharing. Total health system costs are estimated to decrease by 435 million denars. Because of greater participation, HIF obligations would drop significantly. HIF obligations for health care services would drop to 7.0 billion denars (U.S. $175 million). Combined with other obligations that would remain unchanged, HIF obligations would total 9.7 billion denars (U.S. $242.5 million), resulting in an estimated surplus of about 200 million denars (U.S. $5 million). However, the spending by individuals from their own resources as a result of increased participation would be quite significant, roughly three times as high as under the current system. Since the HIF is estimated to run a small surplus under this

[2] Estimated 1996 HIF revenues and expenditures based on extrapolation of totals from first six months of 1996.

benefits package, one option would be for the fund to set up an account based on the estimated surplus. To the extent that spending and revenues are on track each quarter, funds could be transferred to the surplus account and used to cover participation requirements for specified high priority groups.

It may be more acceptable to reduce (or eliminate) the amount of the deductible (400 denars per individual) and replace it with another form of participation. Conversations with local counterparts have resulted in several reasons for not using a deductible as part of the basic benefits package, at least in the short run. One reason is administrative. Normally, invoices for a health service would be submitted to the HIF. The HIF, based on records of invoices received to date for the individual, would calculate the amount of the invoice that should be applied to the deductible. The HIF would pay the balance of the invoice to the facility and notify the individual of the amount they owe for the service. However, in a cash-based economy, payments are normally made for services at the time of the service. It may not be administratively feasible, in the short run, to design a system to permit the health facility to know if an individual has met their deductible at the time of service.

One suggestion is to replace the deductible with a flat 40 denars copayment for each prescription drug purchase. Many drugs that individuals are prescribed cost less than a 40 denars copayment. If the drug costs more than 40 denars, the HIF fund would pay the balance. An estimated 5 million prescriptions were filled in 1995. At 50 denars per prescription, a maximum of 200 million denars would be raised (though the actual total would be less since some drugs cost less than 50 denars). This method would not offset HIF obligations sufficiently to balance revenues and expenditures, but if a deductible is administratively infeasible, a copayment for prescription drugs would help the financial condition of the HIF significantly.

It is anticipated that other changes to the health system that will be part of the health sector transition would reduce unnecessary health spending. For example, implementing a method to ensure that the recently restored referral system for secondary and tertiary care decreases the current overuse of specialists and hospital admissions. This could have a significant impact on system costs. In addition, if the pilot projects to implement a capitation system for primary health care are successful, system costs as well as basic public health could improve.

These types of structural changes, however, have yet to be implemented. The estimated HIF obligations and participation requirements are based on the current payment methods and patterns of service use. The scale of the participation requirements, highlights the need for significant progress to be made during the transition, to improve the efficiency of the current system while preserving and enhancing the quality of basic health care services.

Alternative 2: The Primary Care Basic Benefits Package

- Comprehensive primary care services covered;
- Dental and vision services covered in primary care benefits;
- Services must be provided by approved primary health care physician;
- 25 denars copayment per service (no coinsurance or deductible required)
- Hospital, and secondary and tertiary outpatient services not covered in compulsory basic benefits package
- HIF surplus available to subsidize voluntary supplemental insurance.

Discussion

The primary care basic benefits package would require compulsory insurance only for services categorized as primary care (both preventive and curative) and provided by approved primary health care facilities or physicians. The definition of both covered primary care services and the appropriate facilities and medical personnel to provide those services needs to be part of the health care transition project. A thorough discussion of these issues is contained in the report on capitation ("Capitating Primary Care Services," by Dr. Grace Carter, 1996, draft). For purposes of estimating the costs of the primary care benefits package, the classification of outpatient services provided by the Republican Institute for Health Protection was used. It is likely that estimates based on the current number of services, HIF obligations, and the Republic Institute for Health Protection (RIHP) classification system overestimate the costs of a properly defined primary care basic benefits package because a number of the provided services may not be considered as truly primary care and the primary care services are often provided by specialists under the current system.

All individuals [3]would be required to participate in the system through a flat 25 denars copayment per primary care service. It should be noted that both dental and vision services (except surgery) would be covered under the package and would be subject to the 25 denars copayment per visit rather than the current 20 percent coinsurance requirement. It would be expected that the HIF would design and subsidize voluntary supplemental insurance. The subsidies would come from the considerable surplus that would be accrued by the HIF if only primary health care services were compulsory.

Alternative 3: The Limited Basic Benefit Package

- Most primary, secondary, and tertiary services covered as under current law;
- 200 denars deductible for covered services except primary care;
- 25 denars copayment per primary care service required;
- 10 percent coinsurance for hospital and non-primary care outpatient care services;
- Dental and vision services, and prescription drugs not covered in the basic benefits package;
- HIF would design and subsidize supplemental voluntary insurance.

Discussion

The limited basic benefits package removes certain categories of services from the current comprehensive list of covered services. In most other respects, the limited package is structured much like the comprehensive package detailed above, with the use of a deductible, copayment for primary care services, and coinsurance for other services. One difference is that the deductible is lower (200 denars compared to 400 denars) since removal of certain services from the basic packages improves the outlook for the financial balance of the HIF.

The limited package moves dental and vision services (hospitalizations), and prescription drugs from the basic benefits package. The services removed from the basic benefits package could be added to a package of supplemental insurance offered through the HIF or private insurance. Such supplemental coverage is permitted under the current law. However, since the current comprehensive package covers most all health services except aesthetic surgery (and a few other services), there is not now a market for a supplemental insurance package. Adding valuable services such as dental and drugs to the

[3] It is assumed that some individuals would necessarily need to be exempted from participation, but that it would not necessarily be the obligation of the HIF to cover the costs for those exempt from participation.

supplemental package would make it much more attractive and there would likely be a market for such a supplemental insurance policy.

The choice of benefits to remove from the basic benefits package could be modified. There are precedents in other countries for dental, vision, and prescription drugs not to be part of a basic package. For example, in the United States, dental benefits are often offered as a separate insurance policy by employers who sponsor health insurance for their workers. The U.S. Medicare program for the elderly does not include prescription drugs in the basic benefits package, but many Medicare recipients purchase supplemental insurance which covers drugs among other things. As the Macedonian Health Sector Transition project develops, it may be that categories of treatments for certain diagnoses will be identified that could be removed from the basic package, thereby reducing the need to exclude a category such as drugs from the basic benefits package. For example, discussions with local counterparts have indicated that the extensive coverage for rehabilitation from cardiac-related illnesses may be a candidate for removal from the basic package. It will be important for a clinical team to review the treatment protocols for various conditions and make recommendations for those services which would more appropriately be covered by a voluntary supplemental package rather than the basic benefits package.

COSTS OF PRIMARY CARE AND LIMITED BASIC BENEFITS PACKAGES

The table below presents estimated costs for the Primary Care Basic Benefit Package and the Limited Basic Benefit Package. The primary care basic benefits package would cost the HIF an estimated 2.9 billion denars in 1996 or about 1,500 denars per person if all Macedonians were covered. If HIF revenue sources remain intact, the fund would have a significant surplus (4.3 billion denars) since only primary care would be a compulsory part of the basic benefits package. Presumably, the fund balance would be used to subsidize the purchase of supplemental insurance that many individuals would purchase to cover hospitalizations, secondary and tertiary outpatient care, and prescription drugs. It should be noted that the costs of the primary care package are driven, in part, by the classification of outpatient visits provided by the RIHP. As the Working Groups on basic benefits packages and primary care capitation continue their work, a different classification of covered primary care services may be developed that would change the cost estimate of the benefits package.

Under the limited basic benefits package, HIF obligations for health care in 1996 would be 6.2 billion denars compared to the estimated 8.6 billion for the current system. Combined with other obligations, HIF expenditures are estimated at 8.8 billion denars (U.S. $220 million) in 1996 compared to revenues of 9.9 billion resulting in a surplus of 1.1 billion denars. Reducing the scope of the benefits package by removing dental, vision, and prescription drugs from the basic benefits package would increase the amount of health care that would need to be funded from other sources (i.e., individual resources, and supplemental premiums) to a total of 2.5 billion denars. Presumably, the surplus in the HIF fund could be used to subsidize the cost of purchasing supplemental insurance to targeted groups of the population.

SUPPLEMENTAL INSURANCE PACKAGES

One of the goals of developing a basic benefits package that is less generous than the current package is to move coverage for some services from the compulsory HIF benefits to a supplemental package. Under both the Primary Care Basic Benefits package and the Limited Basic Benefits package, categories of services were identified that could be included in a supplemental package. For example, if the primary care benefits package were adopted, inpatient hospital, outpatient secondary and tertiary care, prescription drugs, treatments abroad, and several other categories of services could be included in a

supplemental package. Under current invoicing methods, the costs for these services would be about 2,800 denars per person. Under the limited basic benefits package, dental, vision, and prescription drugs could be included in a supplemental package. The cost of prescription and dental services (we do not have a separate estimate for vision services) would be about 750 denars per person.

These figures of 2,800 denars and 750 denars per person could be considered the starting point for estimating a premium for a supplemental benefits package. However, several important steps would be needed to make reasonable estimates for a supplemental package premium. First, the specific benefits would have to be specified along with any changes in prices or payment methods for these services. Second, any coinsurance structure would have to be specified, including any deductibles, copayment, coinsurance, or maximum out-of-pocket cost policies. Third, any policies for subsidizing the costs of the supplemental insurance package would need to be specified. Fourth, the increased administrative costs for developing, marketing and managing the supplemental plan would need to be considered.

Finally, the effects of potential adverse selection would have to be estimated. Since it is assumed that the supplemental insurance would be voluntary, at least for some segments of the population, it is likely that younger, healthier individuals would not purchase the policies, while older individuals in poorer health would be likely to purchase supplemental policies. This would lead to higher premiums for those who choose to purchase the policies. In the extreme, the cycle of adverse selection can lead to spiraling premium costs and lower demand for the product. Other countries have used a number of regulations to minimize the amount of adverse selections. These policies include charging different premiums to different categories of individuals, denying coverage for preexisting conditions for individuals who fail to purchase coverage before they become ill, and creating a special pool of funds to cover exceptionally high risks. As the working group on basic benefits packages continues its work, it will be important for the group to consider these issues if a supplemental benefits package is developed.

SUMMARY RECOMMENDATIONS

The design and implementation of a basic benefits package is integrally linked to the other activities taking place under the Macedonian Health Sector Transition Project. The benefit packages developed in this report must be considered as transitional and aimed at bringing short term balance to the Health Insurance Fund (HIF) while introducing some necessary efficiency incentives.

In the short term, the core benefits package would have the features of at least one of the packages developed in this report. While the packages developed in this report have considerable room for flexibility to meet local needs, key recommended features include:

- Increased participation by Macedonian citizens through reductions in the number and types of exemptions;

- Introduction of the use of both copayments and coinsurance into the system. Introduction of individual deductibles if administratively feasible in the short term;

Exclusion of specified categories of services from the basic benefits package, and development of voluntary supplemental insurance for these services. In the short term, it is recommended that categories of services (e.g., dental, drugs, and outpatient secondary care) rather than specific types of services within service categories be moved from the basic to the supplemental category.

Recommendations for Ministry of Health- appointed Working Group on Basic Benefits Package

- The Working Group on basic benefits packages should develop both a short term (2-3 year) and longer term approach to developing a basic benefits package.

- The Working Group on basic benefits packages should appoint a subgroup or separate Working Group to analyze the issues raised in the development of a voluntary supplemental package, as noted in the text of this report.

- In the longer term, develop policies to ensure that the newly restored referral system for secondary, tertiary, and hospital services is effective. These policies can rely on either appropriate financial incentives for primary care physicians, or administrative monitoring systems to identify and correct problems of over-referral. The pilot primary care capitation project should provide useful experience and guidance.

- Set up technical expert panels of clinicians to review the current treatment protocols for various categories of services, particularly those categories that exhibit high total costs of treatment. Develop guidelines for services that would be covered by the HIF and make recommendations for exceptions and exclusions.

Recommendations for Future External Technical Assistance:

- With the Working Group, technical assistance is needed to analyze the results (interim if necessary) of the primary care capitation pilots in order to better define primary care services, appropriate providers of primary care, and primary care payment mechanisms;

- Building on the draft Report, "Coordinated Health Care Benefits Policy: Services, Cost Sharing and Limits for Macedonia" (Farley and Peabody, 1997), revise the actuarial estimates according to the cost-share policies recommended in this report. When the covered benefits are specified and participation established, these models should be recalculated and an updated version of Table 1 produced.

- Develop new pricing policy for non primary care services. Since it is unlikely that Macedonia, given its size and history, will develop a sufficiently competitive health system to permit market forces to set prices, it is recommended that the Working Group prepare the necessary information and data needed by technical experts who will propose an administrative pricing system.

Recommendations to Improve Information Systems:

- In the short term, it should be possible to improve the information available on outpatient services to include both the number and type of visits and the expenditures per visit. The International Project Unit (IPU) and the Information Systems subcommittee should work with health finance consultants to develop a viable system.

- The Health Insurance Fund, in consultation with the Republic Institute for Health Protection, should develop a plan to improve the type and quality of integrated health expenditure and utilization data. The IPU should coordinate the incorporation of this plan with the technical specifications to integrate Macedonia's medical and financial information systems.

Based on this integrated approach, the Ministry of Health should revise the short term basic benefits package to be consistent with a more effective, restructured health care financing and delivery system.

Appendix 1

ESTIMATION METHODOLOGY: BENEFIT PLAN FEATURE

Appendix 1

Estimation Methodology: Listing Benefit Plan Features

Benefit Plan Payment	Current	Comprehensive	Primary Care*	Limited
Deductible				
General Plan Deductible	0	400	0	200
Family Deductible	0	NA	0	NA
Does the general deductible apply to hospital expenses?	NA	yes	NA	yes
Separate hospital deductible?	no	no	NA	no
Is the separate hospital deductible a 'per admission' deductible?	NA	NA	NA	NA
Does the general plan deductible apply to inpatient surgical?	NA	NA	NA	NA
Hospitalization				
Maximum Number of Inpatient Hospital Days?	365	365	NOT COVERED	365
Inpatient Hospitalization Coinsurance	10%	10%	NA	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	NA	6
Outpatient Hospitalization Coinsurance	10%	10%	NA	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6)none	5	6	NA	6
Surgery				
Inpatient Hospitalization Surgery Coinsurance	10%	10%	NOT COVERED	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	NA	6
General (non inpatient)				
General Coinsurance	20%	10%	0	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	NA	6

While the above specification is sufficient for most purposes, primary care is a subset of outpatient services. If a different set of rules is to be used for primary care than for other outpatient services, then the rules that define the primary care package must be defined. Primary care benefits might be considered as an alternative to the current comprehensive package, or as a companion to catastrophic coverage as illustrated in alternatives two and three above. Or the primary care benefits could be operate with special rules (e.g., the use of flat denar copayments) within a comprehensive package as detailed in option one above. In any of these cases, the benefits comprising the primary care benefit package must be specified to distinguish them from other outpatient services. NA = not applicable

Benefit Plan Payment	Current	Comprehensive	Primary Care*	Limited
Outpatient Visits (primary care)				
Outpatient Visits Coinsurance	20%	0%	0%	0%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	6	6
Does deductible apply to primary care?	NA	no	NA	no
Copayment for primary care?	no	yes	yes	yes
Copayment charge per visit?	NA	25	25	25
Outpatient Visits (secondary, tertiary)				
Outpatient visit coinsurance	20%	10%	NOT COVERED	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	NA	6
Does general plan deductible apply?	NA	yes	NA	yes
Copayment for outpatient (non primary care)	no	no	NA	no
Copayment charge per visit?	NA	NA	NA	NA
Outpatient Imaging and lab				
Outpatient Imaging and Lab Coinsurance	20%	10%	0%	10%
Outpatient Imaging and Lab subjected to the general deductible?	NA	NA	NA	NA
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	5	6
Prescription Drug				
Prescription Drugs covered?	yes	yes	no	no
Formulary of approved drugs for payment?	yes	yes	NA	NA
Prescription Drug: 1) Coinsurance; 2) Copayment; and 3) neither	1	1	NA	NA
What is the separate drug deductible?	na	na	NA	NA
Prescription Drug Coinsurance 65+	5%	10%	NA	NA
Prescription drug coinsurance others (except exempt)	20%	10%	NA	NA
Copayment subject to deductible?	NA	NA	NA	NA
Copayment amount?	NA	NA	NA	NA
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6)none	1,3,4	6	NA	NA

Benefit Plan Payment	Current	Comprehensive	Primary Care*	Limited
Maximum Out-of-Pocket Limits				
Is there an Annual Maximum Out-of-Pocket?	no	yes	no	yes
What is the Annual Maximum Out-of-Pocket?	NA	2000	NA	2000
What is the Annual Family Maximum Out-of-Pocket?	NA	NA	NA	NA
Is the General Deductible in the Maximum Out-of-Pocket?	NA	yes	NA	yes
Is the Hospital Deductible in the Maximum Out-of-Pocket?	NA	NA	NA	NA
Is there a separate Maximum Out-of-Pocket for prescription drug?	NA	no	NA	no
What is the separate Maximum Out-of-Pocket for prescription drugs?	NA	NA	NA	NA
Is the drug deductible included in the general Max. Out-of-Pocket?	NA	yes	NA	NA
Is the drug deductible included in the separate Max. Out-of-Pocket?	NA	NA	NA	NA
Inpatient Psychiatric Hospitalization				
Maximum number of inpatient psychiatric. days covered	NOT COVERED	NO LIMIT	NOT COVERED	NO LIMIT
Coinsurance	10%	10%	NA	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; 6) none	5	6	NA	6
Enter additional days covered at higher coinsurance	NA	NA	NA	NA
Enter coinsurance for additional days covered in Q.504	NA	NA	NA	NA
Separate deductible for inpatient psychiatric hospitalization	no	no	NA	no
What is separate deductible?	NA	NA	NA	NA
Outpatient Psychiatric				
Maximum Outpatient Psychiatric visits	NO LIMIT	NO LIMIT	NOT COVERED	NO LIMIT
Outpatient Psychiatric Coinsurance	20%	10%	NA	10%
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; and 6) none	5	6	NA	6
Additional Outpatient Psychiatric visits at higher coinsurance	NA	NA	NA	NA
Coinsurance for additional days covered	NA	NA	NA	NA

Benefit Plan Payment	Current	Comprehensive	Primary Care*	Limited
Mental Illness and Substance Abuse Max. OOP				
Is their a separate Maximum Out-of-Pocket for inpatient psychiatric?	no	no	NOT COVERED	no
Inpatient Psychiatric Maximum Out-of-Pocket	NA	NA	NA	NA
Is the inpatient deductible included with the General Maximum?	NA	yes	NA	yes
Is the inpatient deductible included with the Separate Maximum?	NA	NA	NA	NA
Is the inpatient psychiatric. coins. included in the General Maximum?	NA	yes	NA	yes
Is the inpatient psychiatric. coins. included in the Separate Maximum?	NA	NA	NA	NA
Is there Lifetime dollar limit on expenses for inpatient psychiatric hospital?	NA	no	NA	no
Lifetime dollar limit on expenses for inpatient psychiatric hospital.	NA	NA	NA	NA
Vision Care				
Is Vision Care Covered? 1) Adult; 2) Child; 3) Both; 4) Not Covered	3	3	3	4
Are Frames and Eyeglasses Covered? 1)Adult; 2) Child; 3) Both; 4) Not Covered	3	3	3	4
Are Contacts Covered? 1) Adult; 2) Child; 3) Both; 4) Not Covered	3	3	3	4
Are Eye Exams Covered? 1) Adult; 2) Child; 3) Both; 4) Not Covered	3	3	3	4
Coinsurance for Eyeglasses	50%	50%	0%	NOT COVERED
Coinsurance for Vision Examination	20%	10%	0%	NA
Copayment for Vision exam?	no	no	yes	NA
Copayment amount?	NA	NA	25	NA
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; 6) none	5	NA	6	NA

Benefit Plan Payment	Current	Comprehensive	Primary Care*	Limited
Dental Care				
Is Dental Care Covered?	yes	yes	yes	NOT COVERED
Preventive services covered?	yes	yes	yes	no
Restorative services covered?	yes	yes	yes	no
Orthodontia covered?	no	no	yes	no
Dental based on scheduled amounts?	na	na	no	NA
Coinsurance for preventive care–children?	0%	0%	0%	NA
Coinsurance for preventive care–adults?	20%	10%	0%	NA
Coinsurance for dental restoration?	20%	10%	0%	NA
Coinsurance for Orthodontia device	50%	50%	10%	NA
Copayment for dental services	no	no	yes	NA
Amount of copayment?	NA	NA	25	NA
Exempt Groups: 1) children; 2) elderly; 3) disabled and chronic illness; 4) other special; 5) all; 6)none	5	6	6	NA
Dental is subject to: 1) No deductible; 2) Plan deductible; 3) Separate deductible	1	1	1	NA
What is the dental deductible per year?	NA	NA	NA	NA
Is there a separate maximum benefit for dental? 1) Yes; 2) No?	2	2	2	NA
What is the separate per year maximum for dental?	NA	NA	NA	NA

Preventive Care: (Note: The following is a list of some types of preventive services that could be covered under the benefit package. They may not all be applicable to Macedonia, and a detailed country specific list should be developed. The list here is provided for illustration only

Physical Exams for: 1) Adult; 2) Child; 3) Both; 4) Not Covered

Age that Well-Baby and Well-Child are covered up through?

Are physical exams, well-child and well-baby subjected to the general deductible?

Are Cholesterol Tests covered for: 1) Adult 2) Child; 3) Both; 4) None

How many Fecal Occult blood tests are covered up to age 65?

How many Sigmoidoscopies are covered for the high risk population?

How many Colonscopies are covered up to age 65 at 100%?

Are colorectal benefits only covered for the high risk population.?

Are Adult Immunizations covered? 1) Yes; 2) No

Are Child Immunizations covered? 1) Yes; 2) No

How many mammograms are covered up to age 65?

How many Pap smear tests and pelvic exams are covered up to age 45?

How many Pap smear tests and pelvic exams are covered for children?

How many prostrate cancer screenings are covered up to age 65?

STD - are provided for: 1)whole; 2) female; 3) risk; 4) not covered

STD - what types are covered for adults? 1) C & G; 2) all

STD - what types are covered for children? 1) C & G; 2) all

Tuberculosis. Test is covered for: 1) Adult; 2) Adult at risk; 3) Not covered

Is clinical preventive care subjected to the general deductible and coins?

Are comp. family planning services included?

Are comp. family planning services subjected to the general?

How many hearing aid replacements are available to children?

Are comp. hearing exams for children covered?

Congenital conditions covered for: 1) Adult; 2) Child; 3) Both; 4) None

Maintenance treatments covered for: 1) Adult; 2) Child; 3) Both; 4) None

Hearing Care - Outpatient Rehab Enter Coinsurance

Coverage for pre-natal: 1)100% w/post; 2) 100% w/o post; 3) None

Appendix 2

OUTPATIENT DATASETS

Appendix 2: Inpatient and Outpatient Datasets

The following spreadsheet incorporates data collected and models built by previous RAND consultants: J. Molyneaux, N. Ponce and D. Farley. Source: Republic Institute of Health Protection and National Health Insurance Fund.

Inpatient Data:

Source 1 : 1994 Hospital Discharge Data				**Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)**		**Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)**							**1996 Trend Assumption: 11.42% growth rate**		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
					(D) x (E)	(E) x (.50137)	(D) x (G)		5%	10%	(J+K) x (I)	(H) x (L)	(H) x (1.1142)	(L) x (1.1142)	(N+ 0)
A02	66+	12	154	1551	238840	778	119747	0	0	0	0	119747	133422	0	133422
A02	19-65	131	1657	1551	2569860	778	1288449	0	0	143161	0	1288449	1435590	0	1435590
A02	0-13	301	5413	1551	8395084	778	4209036	0	0	0	0	4209036	4689708	0	4689708
A02	14-18	25	281	1551	435806	778	218500	0	11500	0	0	218500	243452	0	243452
A04	66+	53	238	1943	462434	974	231850	0	0	0	0	231850	258327	0	258327
A04	19-65	374	1630	1943	3167090	974	1587881	0	0	176431	0	1587881	1769217	0	1769217
A04	0-13	555	2506	1943	4869158	974	2441246	0	0	0	0	2441246	2720036	0	2720036
A04	14-18	97	360	1943	699480	974	350698	0	18458	0	0	350698	390747	0	390747
A09	66+	173	1709	1571	2684642	788	1345996	0	0	0	0	1345996	1499709	0	1499709
A09	19-65	707	4906	1571	7706759	788	3863931	0	0	429326	0	3863931	4305192	0	4305192
A09	0-13	1728	13118	1571	20606863	788	10331645	0	0	0	0	10331645	11511519	0	11511519
A09	14-18	78	387	1571	607932	788	304799	0	16042	0	0	304799	339606	0	339606
A15	66+	191	11720	1317	15431252	660	7736753	0	0	0	0	7736753	8620291	0	8620291
A15	19-65	648	50572	1317	66586114	660	33384223	0	0	3709358	0	33384223	37196702	0	37196702
A15	0-13	19	837	1317	1102044	660	552531	0	0	0	0	552531	615630	0	615630
A15	14-18	14	943	1317	1241610	660	622505	0	32763	0	0	622505	693595	0	693595
Azz	66+	269	6060	3329	20170745	1669	10112989	1	0	0	0	10112989	11267893	0	11267893
Azz	19-65	1588	35610	3329	118528092	1669	59426328	1	0	6602925	6602925	66029253	66212815	7356979	73569794
Azz	0-13	1429	23351	3329	77723939	1669	38968385	1	0	0	0	38968385	43418574	0	43418574
Azz	14-18	189	4141	3329	13783343	1669	6910543	1	363713	0	363713	7274255	7699727	405249	8104975

[1] ICD-10 is the abbreviation for International Classification of Diseases, 10th edition. We have combined low frequency diseases into an aggregate category, designated by a trailing "zz" . Example: Czz is an aggreagate catefory for "other cancers."

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
B15	66+	28	501	1539	771115	772	386614	0	0	0	0	386614	430765	0	430765
B15	19-65	647	17204	1539	26479582	772	13276046	0	0	1475116	0	13276046	14792170	0	14792170
B15	0-13	890	20362	1539	31340226	772	15713023	0	0	0	0	15713023	17507450	0	17507450
B15	14-18	221	5174	1539	7963576	772	3992691	0	210142	0	0	3992691	4448657	0	4448657
C50	66+	176	3346	3763	12591062	1887	6312770	0	0	0	0	6312770	7033688	0	7033688
C50	19-65	677	12496	3763	47022686	1887	23575724	0	0	2619525	0	23575724	26268072	0	26268072
C50	0-13	3	41	3763	154284	1887	77353	0	0	0	0	77353	86187	0	86187
Czz	66+	2448	43555	4047	176256969	2029	88369806	0	0	0	0	88369806	98461638	0	98461638
Czz	19-65	6567	108153	4047	437670071	2029	219434269	0	0	24381585	0	219434269	244493663	0	244493663
Czz	0-13	982	9831	4047	39783774	2029	19946357	0	0	0	0	19946357	22224230	0	22224230
Czz	14-18	211	2790	4047	11290482	2029	5660699	0	297932	0	0	5660699	6307151	0	6307151
D50	66+	145	1761	1564	2753586	784	1380563	1	0	0	0	1380563	1538223	0	1538223
D50	19-65	412	3921	1564	6131068	784	3073928	1	0	341548	341548	3415476	3424971	380552	3805523
D50	0-13	398	3709	1564	5799574	784	2907728	1	0	0	0	2907728	3239790	0	3239790
D50	14-18	23	238	1564	372148	784	186584	1	9820	0	9820	196404	207892	10942	218833
Dzz	66+	110	1465	1651	2418821	828	1212722	1	0	0	0	1212722	1351215	0	1351215
Dzz	19-65	445	5569	1651	9194822	828	4610000	1	0	512222	512222	5122222	5136462	570718	5707180
Dzz	0-13	665	7506	1651	12392949	828	6213442	1	0	0	0	6213442	6923018	0	6923018
Dzz	14-18	107	931	1651	1537148	828	770679	1	40562	0	40562	811241	858690	45194	903885
E10	66+	990	14831	2163	32072872	1084	16080349	0	0	0	0	16080349	17916724	0	17916724
E10	19-65	2056	31983	2163	69165038	1084	34677216	0	0	3853024	0	34677216	38637354	0	38637354
E10	0-13	131	1454	2163	3144357	1084	1576483	0	0	0	0	1576483	1756518	0	1756518
E10	14-18	70	382	2163	826096	1084	414179	0	21799	0	0	414179	461479	0	461479
Ezz	66+	54	725	1808	1310556	906	657072	1	0	0	0	657072	732110	0	732110
Ezz	19-65	322	4670	1808	8441785	906	4232451	1	0	470272	470272	4702723	4715797	523977	5239774
Ezz	0-13	489	6779	1808	12254146	906	6143851	1	0	0	0	6143851	6845479	0	6845479
Ezz	14-18	21	217	1808	392263	906	196668	1	10351	0	10351	207019	219128	11533	230661
F10	66+	53	1751	1839	3220047	922	1614432	0	0	0	0	1614432	1798800	0	1798800
F10	19-65	1278	62156	1839	114303386	922	57308191	0	0	6367577	0	57308191	63852786	0	63852786
F10	0-13	2	157	1839	288719	922	144755	0	0	0	0	144755	161286	0	161286
F10	14-18	1	1	1839	1839	922	922	0	49	0	0	922	1027	0	1027
F41	66+	177	3253	803	2612159	403	1309656	0	0	0	0	1309656	1459219	0	1459219
F41	19-65	1822	35896	803	28824488	403	14451709	0	0	1605745	0	14451709	16102094	0	16102094
F41	0-13	5	150	803	120450	403	60390	0	0	0	0	60390	67286	0	67286

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
F41	14-18	30	518	803	415954	403	208547	0	10976	0	0	208547	232363	0	232363
Fzz	66+	279	12218	3629	44334583	1819	22227992	0	0	0	0	22227992	24766429	0	24766429
Fzz	19-65	2193	112959	3629	409886244	1819	205504316	0	0	22833813	0	205504316	228972909	0	228972909
Fzz	0-13	198	10457	3629	37944568	1819	19024236	0	0	0	0	19024236	21196803	0	21196803
Fzz	14-18	63	2058	3629	7467717	1819	3744083	0	197057	0	0	3744083	4171657	0	4171657
Gzz	66+	1467	26456	1529	40460907	767	20285851	1	0	0	0	20285851	22602495	0	22602495
Gzz	19-65	4328	79498	1529	121581540	767	60957233	1	0	6773026	6773026	67730259	67918549	7546505	75465054
Gzz	0-13	1463	27725	1529	42401673	767	21258890	1	0	0	0	21258890	23686656	0	23686656
Gzz	14-18	235	4075	1529	6232167	767	3124616	1	164453	0	164453	3289069	3481447	183234	3664681
H25	66+	1535	22304	2130	47517869	1068	23823993	1	0	0	0	23823993	26544693	0	26544693
H25	19-65	842	10629	2130	22644702	1068	11353355	1	0	1261484	1261484	12614839	12649908	1405545	14055453
H25	0-13	24	237	2130	504920	1068	253151	1	0	0	0	253151	282061	0	282061
H25	14-18	5	79	2130	168307	1068	84384	1	4441	0	4441	88825	94020	4948	98969
I10	66+	779	9045	1463	13235649	734	6635946	1	0	0	0	6635946	7393771	0	7393771
I10	19-65	1716	19516	1463	28557979	734	14318090	1	0	1590899	1590899	15908989	15953216	1772580	17725795
I10	0-13	6	148	1463	216570	734	108582	1	0	0	0	108582	120982	0	120982
I10	14-18	3	33	1463	48289	734	24211	1	1274	0	1274	25485	26976	1420	28395
I20	66+	477	5436	1549	8420364	777	4221711	1	0	0	0	4221711	4703830	0	4703830
I20	19-65	1556	13866	1549	21478434	777	10768624	1	0	1196514	1196514	11965138	11998401	1333156	13331557
I20	0-13	2	12	1549	18588	777	9319	1	0	0	0	9319	10384	0	10384
I20	14-18	1	6	1549	9294	777	4660	1	245	0	245	4905	5192	273	5465
I21	66+	607	9409	1474	13868866	739	6953421	0	0	0	0	6953421	7747502	0	7747502
I21	19-65	1162	17598	1474	25939452	739	13005241	0	0	1445027	0	13005241	14490439	0	14490439
I22	66+	399	5685	1573	8942505	789	4483496	1	0	0	0	4483496	4995511	0	4995511
I22	19-65	1238	19755	1573	31074615	789	15579853	1	0	1731095	1731095	17310948	17359072	1928786	19287858
I24	66+	3210	48316	1316	63574302	660	31874193	0	0	0	0	31874193	35514226	0	35514226
I24	19-65	1548	19545	1316	25717355	660	12893888	0	0	1432654	0	12893888	14366370	0	14366370
I24	0-13	3	25	1316	32895	660	16493	0	0	0	0	16493	18376	0	18376
I24	14-18	4	48	1316	63159	660	31666	0	1667	0	0	31666	35282	0	35282
I61	66+	221	3349	4365	14617407	2188	7328717	0	0	0	0	7328717	8165656	0	8165656
I61	19-65	260	4196	4365	18314315	2188	9182232	0	0	1020248	0	9182232	10230843	0	10230843
I61	0-13	6	43	4365	187682	2188	94098	0	0	0	0	94098	104844	0	104844
I64	66+	567	11911	822	9790842	412	4908826	0	0	0	0	4908826	5469414	0	5469414
I64	19-65	462	11057	822	9088854	412	4556871	0	0	506319	0	4556871	5077266	0	5077266

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
I64	0-13	4	64	822	52608	412	26376	0	0	0	0	26376	29388	0	29388
I70	66+	260	9436	6876	64881936	3447	32529801	1	0	0	0	32529801	36244704	0	36244704
I70	19-65	237	4061	6876	27923436	3447	13999949	1	0	1555550	1555550	15555499	15598743	1733194	17331937
I70	0-13	1	7	6876	48132	3447	24132	1	0	0	0	24132	26888	0	26888
Izz	66+	2464	44929	1581	71043776	793	35619157	1	0	0	0	35619157	39686865	0	39686865
Izz	19-65	4537	61737	1581	97621350	793	48944333	1	0	5438259	5438259	54382592	54533775	6059308	60593084
Izz	0-13	209	3366	1581	5322472	793	2668523	1	0	0	0	2668523	2973269	0	2973269
Izz	14-18	81	1633	1581	2582174	793	1294622	1	68138	0	68138	1362760	1442468	75919	1518388
J03	66+	22	146	879	128334	441	64343	1	0	0	0	64343	71691	0	71691
J03	19-65	417	3077	879	2704683	441	1356045	1	0	150672	150672	1506716	1510905	167878	1678783
J03	0-13	2578	18028	879	15846612	441	7945002	1	0	0	0	7945002	8852322	0	8852322
J03	14-18	105	733	879	644307	441	323036	1	17002	0	17002	340038	359926	18943	378870
J12	66+	213	3646	1563	5700077	784	2857843	1	0	0	0	2857843	3184208	0	3184208
J12	19-65	590	8270	1563	12929138	784	6482271	1	0	720252	720252	7202523	7222546	802505	8025051
J12	0-13	3443	39795	1563	62214637	784	31192499	1	0	0	0	31192499	34754683	0	34754683
J12	14-18	54	649	1563	1014632	784	508705	1	26774	0	26774	535479	566800	29832	596631
J18	66+	25	504	1775	894510	890	448480	1	0	0	0	448480	499696	0	499696
J18	19-65	140	2526	1775	4483200	890	2247738	1	0	249749	249749	2497487	2504430	278270	2782700
J18	0-13	904	13271	1775	23553660	890	11809078	1	0	0	0	11809078	13157675	0	13157675
J18	14-18	24	357	1775	633611	890	317673	1	16720	0	16720	334393	353951	18629	372580
J20	66+	26	598	1685	1007630	845	505195	1	0	0	0	505195	562888	0	562888
J20	19-65	88	679	1685	1144115	845	573624	1	0	63736	63736	637360	639132	71015	710146
J20	0-13	1753	20749	1685	34962065	845	17528901	1	0	0	0	17528901	19530701	0	19530701
J20	14-18	30	417	1685	702645	845	352285	1	18541	0	18541	370826	392515	20659	413174
J35	66+	14	100	1471	147117	738	73760	1	0	0	0	73760	82183	0	82183
J35	19-65	802	5841	1471	8593075	738	4308303	1	0	478700	478700	4787003	4800311	533368	5333679
J35	0-13	1865	15347	1471	22577970	738	11319898	1	0	0	0	11319898	12612630	0	12612630
J35	14-18	226	1551	1471	2281777	738	1144013	1	60211	0	60211	1204224	1274659	67087	1341746
J40	66+	45	614	1848	1134941	927	569024	1	0	0	0	569024	634007	0	634007
J40	19-65	45	519	1848	959339	927	480983	1	0	53443	53443	534426	535911	59546	595457
J40	0-13	310	1911	1848	3532364	927	1771018	1	0	0	0	1771018	1973269	0	1973269
J40	14-18	1	3	1848	5545	927	2780	1	146	0	146	2927	3098	163	3261
J41	66+	1266	26365	1848	48734054	927	24433751	1	0	0	0	24433751	27224085	0	27224085
J41	19-65	1492	28897	1848	53414297	927	26780281	1	0	2975587	2975587	29755867	29838589	3315399	33153987

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
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ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
J41	0-13	1158	17003	1848	31428982	927	15757522	1	0	0	0	15757522	17557031	0	17557031
J41	14-18	15	168	1848	310537	927	155694	1	8194	0	8194	163888	173474	9130	182604
J45	66+	176	3325	1581	5256787	793	2635591	0	0	0	0	2635591	2936575	0	2936575
J45	19-65	608	9762	1581	15433610	793	7737936	0	0	859771	0	7737936	8621608	0	8621608
J45	0-13	507	7483	1581	11830537	793	5931466	0	0	0	0	5931466	6608840	0	6608840
J45	14-18	32	393	1581	621329	793	311515	0	16396	0	0	311515	347090	0	347090
Jzz	66+	634	12137	1428	17327127	716	8687287	1	0	0	0	8687287	9679375	0	9679375
Jzz	19-65	2716	31525	1428	45005988	716	22564614	1	0	2507179	2507179	25071793	25141492	2793499	27934992
Jzz	0-13	2069	21332	1428	30454171	716	15268781	1	0	0	0	15268781	17012476	0	17012476
Jzz	14-18	233	2204	1428	3146493	716	1577555	1	83029	0	83029	1660584	1757711	92511	1850222
K26	66+	229	2276	3176	7229099	1592	3624447	1	0	0	0	3624447	4038359	0	4038359
K26	19-65	1078	11650	3176	37003080	1592	18552202	1	0	2061356	2061356	20613558	20670864	2296763	22967626
K26	0-13	22	183	3176	581250	1592	291421	1	0	0	0	291421	324701	0	324701
K26	14-18	11	133	3176	422439	1592	211798	1	11147	0	11147	222945	235985	12420	248405
K29	66+	149	1259	2223	2798757	1115	1403210	1	0	0	0	1403210	1563457	0	1563457
K29	19-65	641	5519	2223	12268737	1115	6151166	1	0	683463	683463	6834629	6853629	761514	7615144
K29	0-13	67	262	2223	582426	1115	292010	1	0	0	0	292010	325358	0	325358
K29	14-18	38	158	2223	351234	1115	176098	1	9268	0	9268	185366	196208	10327	206535
K35	66+	63	1260	2917	3675400	1462	1842732	1	0	0	0	1842732	2053172	0	2053172
K35	19-65	1604	13883	2917	40496492	1462	20303692	1	0	2255966	2255966	22559657	22622373	2513597	25135970
K35	0-13	1130	10468	2917	30534991	1462	15309302	1	0	0	0	15309302	17057625	0	17057625
K35	14-18	670	4789	2917	13969438	1462	7003845	1	368623	0	368623	7372468	7803684	410720	8214404
K40	66+	679	7138	2366	16890845	1186	8468548	1	0	0	0	8468548	9435657	0	9435657
K40	19-65	1963	19764	2366	46768094	1186	23448079	1	0	2605342	2605342	26053421	26125850	2902872	29028722
K40	0-13	1330	10646	2366	25191921	1186	12630452	1	0	0	0	12630452	14072850	0	14072850
K40	14-18	89	633	2366	1497885	1186	750993	1	39526	0	39526	790519	836757	44040	880797
K50	66+	128	1011	1569	1586387	787	795365	1	0	0	0	795365	886196	0	886196
K50	19-65	514	3357	1569	5267557	787	2640990	1	0	293443	293443	2934434	2942592	326955	3269546
K50	0-13	2506	14403	1569	22600125	787	11331005	1	0	0	0	11331005	12625006	0	12625006
K50	14-18	60	232	1569	364037	787	182517	1	9606	0	9606	192123	203361	10703	214064
K56	66+	108	1164	2996	3487215	1502	1748382	1	0	0	0	1748382	1948047	0	1948047
K56	19-65	201	2199	2996	6587960	1502	3303000	1	0	367000	367000	3670000	3680202	408911	4089114
K56	0-13	204	991	2996	2968926	1502	1488528	1	0	0	0	1488528	1658518	0	1658518
K56	14-18	12	113	2996	338535	1502	169731	1	8933	0	8933	178664	189115	9953	199068

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ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
K80	66+	579	7443	3119	23211026	1564	11637292	1	0	0	0	11637292	12966271	0	12966271
K80	19-65	2252	28557	3119	89055123	1564	44649491	1	0	4961055	4961055	49610546	49748463	5527607	55276070
K80	0-13	2	12	3119	37422	1564	18762	1	0	0	0	18762	20905	0	20905
K80	14-18	6	66	3119	205821	1564	103192	1	5431	0	5431	108624	114977	6051	121028
Kzz	66+	896	11297	2717	30688648	1362	15386341	1	0	0	0	15386341	17143462	0	17143462
Kzz	19-65	3276	38132	2717	103586752	1362	51935202	1	0	5770578	5770578	57705779	57866202	6429578	64295779
Kzz	0-13	774	6737	2717	18301268	1362	9175691	1	0	0	0	9175691	10223555	0	10223555
Kzz	14-18	137	989	2717	2686649	1362	1347003	1	70895	0	70895	1417898	1500831	78991	1579822
L50	66+	57	1048	1482	1553437	743	778845	1	0	0	0	778845	867790	0	867790
L50	19-65	535	5523	1482	8186672	743	4104545	1	0	456061	456061	4560605	4573284	508143	5081427
L50	0-13	304	2024	1482	3000149	743	1504182	1	0	0	0	1504182	1675960	0	1675960
L50	14-18	39	291	1482	431346	743	216263	1	11382	0	11382	227646	240961	12682	253643
Lzz	66+	248	4545	1416	6437025	710	3227325	1	0	0	0	3227325	3595886	0	3595886
Lzz	19-65	1726	24658	1416	34922805	710	17509217	1	0	1945469	1945469	19454686	19508770	2167641	21676411
Lzz	0-13	625	6077	1416	8606776	710	4315172	1	0	0	0	4315172	4807965	0	4807965
Lzz	14-18	139	1547	1416	2190996	710	1098498	1	57816	0	57816	1156313	1223946	64418	1288364
M15	66+	438	11497	2034	23380016	1020	11722019	1	0	0	0	11722019	13060673	0	13060673
M15	19-65	548	15129	2034	30765962	1020	15425104	1	0	1713900	1713900	17139004	17186651	1909628	19096279
M15	0-13	2	25	2034	50839	1020	25489	1	0	0	0	25489	28400	0	28400
M15	14-18	4	60	2034	122015	1020	61174	1	3220	0	3220	64394	68160	3587	71748
M45	66+	314	7914	1954	15460113	979	7751224	1	0	0	0	7751224	8636414	0	8636414
M45	19-65	437	8449	1954	16505244	979	8275220	1	0	919469	919469	9194689	9220250	1024472	10244722
M50	66+	133	2800	1700	4760000	852	2386517	1	0	0	0	2386517	2659057	0	2659057
M50	19-65	1050	19783	1700	33631100	852	16861596	1	0	1873511	1873511	18735107	18787190	2087466	20874656
M50	0-13	3	30	1700	51000	852	25570	1	0	0	0	25570	28490	0	28490
M50	14-18	3	48	1700	81600	852	40912	1	2153	0	2153	43065	45584	2399	47983
M60	0-13	98	1097	1781	1953757	893	979553	0	0	0	0	979553	1091418	0	1091418
M88	66+	25	303	1781	539643	893	270560	0	0	0	0	270560	301458	0	301458
M88	19-65	1011	14701	1781	26182481	893	13127088	0	0	1458565	0	13127088	14626202	0	14626202
M88	14-18	1	3	1781	5343	893	2679	0	141	0	0	2679	2985	0	2985
Mzz	66+	688	14999	1609	24136274	807	12101183	0	0	0	0	12101183	13483138	0	13483138
Mzz	19-65	3263	73302	1609	117957007	807	59140004	0	0	6571112	0	59140004	65893792	0	65893792
Mzz	0-13	544	14190	1609	22834437	807	11448482	0	0	0	0	11448482	12755899	0	12755899
Mzz	14-18	292	6354	1609	10224807	807	5126403	0	269811	0	0	5126403	5711838	0	5711838

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ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
N18	66+	202	4550	2441	11105255	1224	5567832	0	0	0	0	5567832	6203679	0	6203679
N18	19-65	660	16722	2441	40813642	1224	20462701	0	0	2273633	0	20462701	22799541	0	22799541
N18	0-13	13	267	2441	651671	1224	326728	0	0	0	0	326728	364040	0	364040
N18	14-18	5	68	2441	165969	1224	83212	0	4380	0	0	83212	92714	0	92714
N20	66+	119	1938	2330	4515816	1168	2264091	1	0	0	0	2264091	2522650	0	2522650
N20	19-65	1065	11524	2330	26852562	1168	13463046	1	0	1495894	1495894	14958940	15000526	1666725	16667251
N20	0-13	33	287	2330	668751	1168	335291	1	0	0	0	335291	373581	0	373581
N20	14-18	21	120	2330	279617	1168	140191	1	7378	0	7378	147570	156201	8221	164422
N40	66+	573	9413	2254	21216977	1130	10637537	1	0	0	0	10637537	11852344	0	11852344
N40	19-65	253	3992	2254	8998000	1130	4511319	1	0	501258	501258	5012577	5026512	558501	5585013
N40	14-18	1	17	2254	38318	1130	19212	1	1011	0	1011	20223	21405	1127	22532
N94	66+	65	3949	1605	6338145	805	3177750	1	0	0	0	3177750	3540649	0	3540649
N94	19-65	3156	128507	1605	206253735	805	103409259	1	0	11489918	11489918	114899176	115218596	12802066	128020662
N94	0-13	16	139	1605	223095	805	111853	1	0	0	0	111853	124627	0	124627
N94	14-18	44	1006	1605	1614630	805	809526	1	42607	0	42607	852132	901973	47472	949446
Nzz	66+	614	7867	2124	16707653	1065	8376702	1	0	0	0	8376702	9333321	0	9333321
Nzz	19-65	5201	48066	2124	102080852	1065	51180190	1	0	5686688	5686688	56866877	57024967	6336107	63361075
Nzz	0-13	863	10493	2124	22284658	1065	11172840	1	0	0	0	11172840	12448778	0	12448778
Nzz	14-18	151	1633	2124	3468107	1065	1738802	1	91516	0	91516	1830318	1937373	101967	2039340
O02	19-65	1596	17408	3121	54322891	1565	27235822	0	0	3026202	0	27235822	30346152	0	30346152
O02	14-18	53	320	3121	998583	1565	500658	0	26350	0	0	500658	557834	0	557834
O03	19-65	1207	5435	2734	14861011	1371	7450853	0	0	827873	0	7450853	8301740	0	8301740
O03	14-18	23	77	2734	210542	1371	105559	0	5556	0	0	105559	117614	0	117614
O04	19-65	1445	4758	2984	14197872	1496	7118375	0	0	790931	0	7118375	7931293	0	7931293
O04	0-13	1	1	2984	2984	1496	1496	0	0	0	0	1496	1667	0	1667
O04	14-18	37	144	2984	429696	1496	215436	0	11339	0	0	215436	240039	0	240039
O08	19-65	412	2149	2467	5301583	1237	2658050	0	0	295339	0	2658050	2961599	0	2961599
O08	0-13	1	0	2467	0	1237	0	0	0	0	0	0	0	0	0
O08	14-18	10	88	2467	217096	1237	108845	0	5729	0	0	108845	121275	0	121275
Ozz	19-65	4419	34645	1660	57527340	833	28842433	0	0	3204715	0	28842433	32136239	0	32136239
Ozz	0-13	4	30	1660	49814	833	24975	0	0	0	0	24975	27828	0	27828
Ozz	14-18	123	1109	1660	1841473	833	923258	0	48593	0	0	923258	1028694	0	1028694
P90	0-13	655	5781	1660	9599237	833	4812761	0	0	0	0	4812761	5362378	0	5362378
Pzz	0-13	1403	15570	4942	76950936	2478	38580825	0	0	0	0	38580825	42986755	0	42986755

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
Qzz	66+	39	560	3022	1692339	1515	848486	0	0	0	0	848486	945384	0	945384
Qzz	19-65	471	10985	3022	33197037	1515	16643970	0	0	1849330	0	16643970	18544712	0	18544712
Qzz	0-13	1712	31448	3022	95036908	1515	47648573	0	0	0	0	47648573	53090040	0	53090040
Qzz	14-18	139	2759	3022	8337790	1515	4180311	0	220016	0	0	4180311	4657702	0	4657702
R10	66+	77	439	2937	1289252	1472	646391	1	0	0	0	646391	720209	0	720209
R10	19-65	458	2129	2937	6252433	1472	3134777	1	0	348309	348309	3483086	3492769	388085	3880854
R10	0-13	259	1074	2937	3154116	1472	1581377	1	0	0	0	1581377	1761970	0	1761970
R10	14-18	102	269	2937	789997	1472	396080	1	20846	0	20846	416927	441313	23227	464540
R30	66+	100	659	1703	1122277	854	562675	1	0	0	0	562675	626933	0	626933
R30	19-65	912	6787	1703	11558261	854	5794955	1	0	643884	643884	6438839	6456739	717415	7174155
R30	0-13	37	194	1703	330382	854	165643	1	0	0	0	165643	184560	0	184560
R30	14-18	44	194	1703	330382	854	165643	1	8718	0	8718	174361	184560	9714	194273
R50	66+	55	1182	1602	1893510	803	949348	1	0	0	0	949348	1057763	0	1057763
R50	19-65	307	2142	1602	3431387	803	1720392	1	0	191155	191155	1911546	1916860	212984	2129845
R50	0-13	720	5957	1602	9542844	803	4784488	1	0	0	0	4784488	5330876	0	5330876
R50	14-18	20	50	1602	80098	803	40159	1	2114	0	2114	42272	44745	2355	47100
Rzz	66+	231	3335	1932	6442403	969	3230022	1	0	0	0	3230022	3598890	0	3598890
Rzz	19-65	640	7128	1932	13769549	969	6903627	1	0	767070	767070	7670697	7692021	854669	8546690
Rzz	0-13	333	2662	1932	5142331	969	2578206	1	0	0	0	2578206	2872638	0	2872638
Rzz	14-18	54	540	1932	1043148	969	523002	1	27526	0	27526	550528	582729	30670	613399
S00	66+	45	276	2407	664317	1207	333068	1	0	0	0	333068	371105	0	371105
S00	19-65	278	1270	2407	3056823	1207	1532597	1	0	170289	170289	1702885	1707619	189735	1897355
S00	0-13	124	420	2407	1010918	1207	506843	1	0	0	0	506843	564724	0	564724
S00	14-18	30	125	2407	300868	1207	150846	1	7939	0	7939	158785	168073	8846	176919
S20	66+	45	373	2149	801449	1077	401822	1	0	0	0	401822	447710	0	447710
S20	19-65	343	2724	2149	5852944	1077	2934486	1	0	326054	326054	3260539	3269604	363289	3632893
S20	0-13	73	282	2149	605922	1077	303790	1	0	0	0	303790	338483	0	338483
S20	14-18	24	93	2149	199825	1077	100186	1	5273	0	5273	105459	111627	5875	117503
S42	66+	54	636	2112	1343122	1059	673400	1	0	0	0	673400	750302	0	750302
S42	19-65	136	1661	2112	3507745	1059	1758675	1	0	195408	195408	1954083	1959516	217724	2177239
S42	0-13	144	1158	2112	2445496	1059	1226096	1	0	0	0	1226096	1366116	0	1366116
S42	14-18	32	324	2112	684232	1059	343053	1	18055	0	18055	361108	382229	20117	402347
S82	66+	82	1668	2366	3946253	1186	1978529	1	0	0	0	1978529	2204477	0	2204477
S82	19-65	448	7633	2366	18058602	1186	9054026	1	0	1006003	1006003	10060029	10087996	1120888	11208884

Source 1 : 1994 Hospital Discharge Data				Source 2 : Sample Invoice Data 1996 (see RAND report on Burden of Disease & Costs of Treatment)		Model combining data from Source 1 and Source 2 Assumptions: Budget Neutrality Factor = .50137 Low variation in utilization between 1994 and 1995. (1995 Hospital data not ready for this analysis)							1996 Trend Assumption: 11.42% growth rate		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ICD-10[1]	Age Group	# of Stays	Hospital Days	Avg Cost per Day 1994	Unadjusted Costs	Adj. Avg Cost per Day 1995	HIF Obligations	Illness exempt	Youth (14-18) Coins.	Adult Coins.	Net Coins.	Total Baseline Expend.	HIF Obligations	Net Coins.	Total Costs
S82	0-13	74	796	2366	1883224	1186	944190	1	0	0	0	944190	1052017	0	1052017
S82	14-18	29	309	2366	731050	1186	366526	1	19291	0	19291	385817	408383	21494	429877
Szz	66+	1354	26198	4295	112524359	2153	56416242	1	0	0	0	56416242	62858976	0	62858976
Szz	19-65	5499	71098	4295	305376627	2153	153106418	1	0	17011824	17011824	170118242	170591171	18954575	189545746
Szz	0-13	1782	15315	4295	65780233	2153	32980179	1	0	0	0	32980179	36746516	0	36746516
Szz	14-18	602	5048	4295	21681921	2153	10870646	1	572139	0	572139	11442785	12112074	637478	12749552
Zzz	66+	73	1337	1921	2567716	963	1287373	0	0	0	0	1287373	1434392	0	1434392
Zzz	19-65	657	8565	1921	16449129	963	8247086	0	0	916343	0	8247086	9188903	0	9188903
Zzz	0-13	129	1793	1921	3443466	963	1726448	0	0	0	0	1726448	1923608	0	1923608
Zzz	14-18	35	348	1921	668336	963	335083	0	17636	0	0	335083	373349	0	373349
Totals			2523058		5724923497		2870300000		3760361	194486197	102729506	2973029506	3198088260	114461216	3312549476

Outpatient Health Services Baseline (in 10,000s)

Municipality	Total Preventive Visits	Total Curative Visits	Home: Doctors	Home: Nurses	Total Primary Care Visits	Total Dental Visits	Total Secondary Visits	Total Tertiary Visits	Total Outpatient Visits	Total Outpatient HIF Obligations	Total Dental HIF Obligations
Berovo	1.5	6.7	0.2	1.2	9.6	3.2	0.9	0.0	13.7	3859	1008
Bitola	8.2	38.2	1.0	2.4	49.8	13.7	20.3	8.4	92.2	26864	2843
Debar	0.7	3.8	0.0	0.0	4.5	0.3	1.7	0.0	6.5	4418	273
Delchevo	1.4	9.2	0.0	0.1	10.7	1.7	0.5	0.0	12.9	4512	421
Demir Hisar	0.3	2.7	0.0	4.1	7.1	0.8	0.4	0.0	8.4	1600	333
Gevgelija	1.5	12.3	0.5	0.8	15.0	2.5	5.5	0.0	23.1	6084	994
Gostivar	4.9	20.8	0.0	0.0	25.6	4.9	5.8	0.0	36.3	9092	2304
Kavadarci	2.6	16.1	0.3	0.8	19.8	4.1	5.6	0.0	29.5	6824	1112
Kichevo	1.7	12.7	0.0	0.0	14.5	3.9	4.4	0.0	22.8	5582	1584
Kochani	2.4	14.4	0.3	0.0	17.1	2.9	4.5	0.0	24.5	5325	1069
Kratovo	0.4	2.8	0.2	0.5	3.8	0.7	0.5	0.0	5.0	1448	374
Krushevo	0.8	3.7	0.1	0.5	5.0	2.1	2.5	0.0	9.6	2471	213
Kriva Palanka	0.8	7.1	0.1	0.1	8.1	1.1	0.3	0.0	9.5	3625	450
Kumanova	7.3	33.8	1.2	6.1	48.3	9.5	15.6	0.0	73.4	17460	3
MakedonskiBrod	0.4	2.1	0.0	0.0	2.6	0.8	0.1	0.0	3.4	1375	27
Negotino	1.2	7.4	0.1	0.3	9.0	2.3	4.8	0.0	16.1	3705	369
Ohrid	3.3	23.5	0.4	0.5	27.7	6.8	10.2	0.0	44.6	13553	1418
Prilep	7.6	38.5	1.6	0.2	47.8	10.9	10.1	0.0	68.8	16381	3552
Probishtip	0.6	6.0	0.0	0.1	6.7	1.3	0.7	0.0	8.7	3091	479
Radovish	1.7	8.8	0.7	1.4	12.7	2.4	1.4	0.0	16.5	5853	264
Resen	1.3	6.0	0.1	0.1	7.5	1.0	1.7	0.0	10.2	3508	443
Shtip	2.6	15.6	0.0	0.1	18.2	3.5	6.9	0.0	28.6	7721	918
Skopje	49.2	158.4	9.6	16.2	233.3	22.3	46.3	69.1	370.9	124328	12954
Struga	4.4	14.9	0.4	1.7	21.5	3.2	4.9	1.4	31.1	11487	964
Strumitsa	4.6	23.2	0.0	0.0	27.7	9.3	1.2	0.0	38.3	11157	1452
Sveti Nikole	2.0	8.7	0.1	0.3	11.1	1.3	6.7	0.0	19.2	3769	339
Tetovo	11.7	36.1	0.7	1.4	49.8	6.7	1.4	0.0	57.9	17771	2979
Veles	11.1	25.2	0.6	1.7	38.6	8.3	11.0	0.0	57.8	10491	2433
Valandovo	0.4	5.0	0.1	0.5	6.0	0.7	11.6	0.0	18.3	2267	176
Vinica	0.4	7.1	0.0	0.1	7.7	2.1	0.9	0.0	10.7	3293	524
Grand Totals	137	571	18	41	767	134	189	79	1168	338913	42271

Outpatient Health Services Baseline (in 10,000s)

Municipality	Out-patient Coins.	Dental Coins.	Total Outpatient Expend.	Total Dental Expend.	Grand Total Expend.	Cost per Service	Dental Cost Per Service	HIF Obligat-ions Out-patient	Coins. Outpatient	Total Expend. Outpatient	HIF Obligations Dental	Coins. Dental	Total Expend. Dental
Berovo	173	195	4032	1203	5235	0.04	0.04	4095	184	4279	1351	262	1613
Bitola	1205	552	28069	3395	31463	0.03	0.02	28508	1279	29786	3811	739	4550
Debar	198	53	4616	326	4943	0.08	0.11	4689	210	4899	367	71	438
Delchevo	202	82	4714	503	5217	0.04	0.03	4788	215	5003	564	109	674
Demir Hisar	72	65	1672	398	2070	0.02	0.05	1698	76	1774	447	87	533
Gevgelija	273	193	6357	1187	7543	0.03	0.05	6456	290	6746	1332	258	1590
Gostivar	408	447	9500	2751	12250	0.03	0.06	9648	433	10081	3088	599	3687
Kavadarci	306	216	7130	1327	8457	0.03	0.03	7242	325	7567	1490	289	1779
Kichevo	250	307	5832	1891	7723	0.03	0.05	5923	266	6189	2123	412	2535
Kochani	239	207	5564	1276	6840	0.03	0.04	5651	253	5905	1432	278	1710
Kratovo	65	73	1513	447	1960	0.04	0.07	1537	69	1606	502	97	599
Krushevo	111	41	2582	254	2836	0.03	0.01	2623	118	2740	285	55	341
Kriva Palanka	163	87	3787	537	4324	0.05	0.05	3847	173	4019	603	117	720
Kumanova	783	1	18243	3	18247	0.02	0.00	18529	831	19360	4	1	4
MakedonskiBrod	62	5	1437	32	1469	0.04	0.00	1459	65	1525	36	7	43
Negotino	166	72	3871	441	4312	0.03	0.02	3932	176	4108	495	96	591
Ohrid	608	275	14160	1693	15854	0.04	0.03	14382	645	15027	1901	369	2270
Prilep	735	689	17116	4241	21356	0.03	0.04	17383	780	18163	4761	924	5684
Probishtip	139	93	3230	572	3802	0.04	0.04	3280	147	3427	643	125	767
Radovish	263	51	6116	315	6431	0.04	0.01	6212	279	6490	354	69	422
Resen	157	86	3665	529	4194	0.04	0.06	3722	167	3889	594	115	709
Shtip	346	178	8067	1097	9164	0.03	0.03	8194	367	8561	1231	239	1470
Skopje	5576	2513	129904	15467	145370	0.04	0.07	131936	5917	137854	17363	3368	20731
Struga	515	187	12002	1151	13154	0.04	0.04	12190	547	12737	1292	251	1543
Strumitsa	500	282	11657	1734	13391	0.04	0.02	11839	531	12370	1946	378	2324
Sveti Nikole	169	66	3938	405	4342	0.02	0.03	3999	179	4179	454	88	543
Tetovo	797	578	18568	3557	22125	0.04	0.05	18859	846	19705	3993	775	4768
Veles	470	472	10961	2904	13865	0.02	0.04	11133	499	11632	3261	633	3893
Valandovo	102	34	2368	210	2578	0.01	0.03	2405	108	2513	236	46	282
Vinica	148	102	3441	625	4066	0.04	0.03	3494	157	3651	702	136	838
Grand Totals	15200	8200	354113	50471	404583	0.03	0.04	359654	16130	375784	56659	10991	67651

Appendix 3

ESTIMATION OF DEDUCTIBLE PAYMENTS

Appendix 3

Estimation of Deductible Payments

Deductible worksheet: Assumes 20% of population have no health expenditures and that 10% consume 50% and 20% consume 70%. Assumption is a version of a displaced lognormal distribution about 10% of per capita expenditures.

% of population	Health expenditures (Health Care Services: Invoiced)	Population	Per capita Health Expenditures	Dollar Conversion	Induction	Change in Base Health Expenditures	New Total Expenditures	Per Capita Revenue from Deductible	Total Revenue	Net Health Expenditures
0.1	0	193688	0	0	0.33	0	0	0	0	0
0.1	0	193688	0	0	0.33	0	0	0	0	0
0.1	73106	193688	377	9	0.33	253	48981	253	48981	0
0.1	125736	193688	649	16	0.33	517	100170	400	77475	22694
0.1	209560	193688	1082	27	0.33	950	183994	400	77475	106519
0.1	349267	193688	1803	45	0.33	1671	323701	400	77475	246226
0.1	582112	193688	3005	75	0.33	2873	556546	400	77475	479071
0.1	970187	193688	5009	125	0.33	4877	944621	400	77475	867146
0.1	1539980	193688	7951	199	0.33	7819	1514413	400	77475	1436938
0.1	3849950	193688	19877	497	0.33	19745	3824383	400	77475	3746908
1	7699900	1936877	3975	99			7496808		591307	6905501

Note: The total health expenditure column needs to be inflated to account for current coinsurance

Note: Distribution of health expenditures by decile of population and the induction factor (elasticity) are more rule of thumb than based on any Macedonia specific information, which does not currently exist in the form needed.

	1995	95%	1996	96%	Deductible savings 95	1996 deductible savings	Share if savings from	Induction factor
Outpatient	3369600	0.4376161	3575878	0.4149206	794399		368923.47	0.9656444
Inpatient	2870300	0.3727711	3198081	0.3710836	0.89683	7729079.7	329946.14	0.9656444
Dental	422700	0.0548968	566567	0.0657406		889142.3	58452.74	0.9656444
Drugs	784100	0.1018325	987578	0.1145918			101888.46	0.9656444
Other	114700	0.0148963	131424	0.0152495			13559.019	0.9656444
Abroad	138500	0.0179872	158694	0.0184138			16372.466	0.9656444
Total	7699900	1	8618222	1			889142.3	

Appendix 4

ESTIMATION OF BENEFIT PACKAGE COSTS

Appendix 4: Estimation of Benefit Package Costs
(Only the estimate of the Comprehensive Package is included. The estimate of the Limited and Primary Care Package follows the same methodology)

Valuation of comprehensive benefit package with no exemptions, use of deductible and copayment : INPATIENT (IP)

												Adjustments for deductible		Adjustments for coinsurance		
ICD Code	Age Group	1995 Baseline IP Health Expend.	1994 Number of days	Adj. avg cost per stay: 1995	1996 trend in utilization	1996 trend in expend.	Baseline 1996 inpatient expend.	Reduc-tion in IP days	New expend.	Reduc-tion in IP days	Reduction in expend.	Deductible Amount	Costs after deductible	Apply Coinsu rance?	Coins.	HIF Obligation
A02	66+	119747	154	778	160	835	133422	155	128833	152	126256	13206	113050	0.1	11305	101745
A02	19-65	1288449	1657	778	1723	835	1435590	1664	1386205	1631	1358481	142092	1216389	0.1	121639	1094750
A02	0-13	4209036	5413	778	5630	835	4689708	5436	4528382	5327	4437814	464180	3973634	0.1	397363	3576271
A02	14-18	218500	281	778	292	835	243452	282	235078	277	230376	24097	206280	0.1	20628	185652
A04	66+	231850	238	974	248	1046	258327	239	249441	234	244452	25569	218883	0.1	21888	196995
A04	19-65	1587881	1630	974	1695	1046	1769217	1637	1708356	1604	1674189	175114	1499075	0.1	149907	1349167
A04	0-13	2441246	2506	974	2606	1046	2720036	2517	2626467	2466	2573937	269225	2304712	0.1	230471	2074241
A04	14-18	350698	360	974	374	1046	390747	362	377306	354	369760	38676	331084	0.1	33108	297976
A09	66+	1345996	1709	788	1777	846	1499709	1716	1448119	1682	1419157	148439	1270718	0.1	127072	1143646
A09	19-65	3863931	4906	788	5102	846	4305192	4927	4157094	4828	4073952	426121	3647831	0.1	364783	3283048
A09	0-13	10331645	13118	788	13643	846	11511519	13173	11115523	12910	10893213	1139392	9753820	0.1	975382	8778438
A09	14-18	304799	387	788	402	846	339606	389	327924	381	321366	33614	287752	0.1	28775	258977
A15	66+	7736753	11720	660	12189	709	8620291	11770	8323753	11534	8157278	853223	7304055	0.1	730405	6573649
A15	19-65	33384223	50572	660	52595	709	37196702	50786	35917135	49770	35198792	3681672	31517120	0.1	3151712	28365408
A15	0-13	552531	837	660	870	709	615630	841	594452	824	582563	60934	521629	0.1	52163	469466
A15	14-18	622505	943	660	981	709	693595	947	669735	928	656341	68651	587690	0.1	58769	528921
Azz	66+	10112989	6060	1669	6302	1793	11267893	6086	10880277	5964	10662672	1115279	9547393	0.1	954739	8592654
Azz	19-65	66029253	35610	1669	37034	1793	73569794	35760	71038993	35687	70893370	7415202	63478168	0.1	6347817	57130352
Azz	0-13	38968385	23351	1669	24285	1793	43418574	23450	41924975	22981	41086476	4297504	36788972	0.1	3678897	33110075
Azz	14-18	7274255	4141	1669	4307	1793	8104975	4158	7826164	4113	7739881	809565	6930316	0.1	693032	6237285
B15	66+	386614	501	772	521	829	430765	503	415946	493	407628	42636	364991	0.1	36499	328492
B15	19-65	13276046	17204	772	17892	829	14792170	17277	14283319	16931	13997653	1464106	12533547	0.1	1253355	11280192
B15	0-13	15713023	20362	772	21176	829	17507450	20448	16905193	20039	16567090	1732860	14834229	0.1	1483423	13350806
B15	14-18	3992691	5174	772	5381	829	4448657	5196	4295623	5092	4209710	440321	3769389	0.1	376939	3392450
C50	66+	6312770	3346	1887	3480	2027	7033688	3360	6791729	3293	6655895	696184	5959711	0.1	595971	5363740
C50	19-65	23575724	12496	1887	12996	2027	26268072	12549	25364450	12298	24857161	2599973	22257188	0.1	2225719	20031469
C50	0-13	77353	41	1887	43	2027	86187	41	83222	40	81558	8531	73027	0.1	7303	65724
Czz	66+	88369806	43555	2029	45297	2179	98461638	43739	95074557	42864	93173066	9745581	83427485	0.1	8342749	75084737
Czz	19-65	219434269	108153	2029	112479	2179	244493663	108610	236083081	106438	231361419	24199606	207161814	0.1	20716181	186445632
Czz	0-13	19946357	9831	2029	10224	2179	22224230	9873	21459717	9675	21030523	2199720	18830803	0.1	1883080	16947722
Czz	14-18	5660699	2790	2029	2902	2179	6307151	2802	6090185	2746	5968381	624272	5344109	0.1	534411	4809698

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D50	66+	1380563	1761	784	1831	842	1538223	1768	1485308	1733	1455602	152251	1303351	0.1	130335	1173016
D50	19-65	3415476	3921	784	4078	842	3805523	3938	3674613	3929	3667081	383564	3283517	0.1	328352	2955165
D50	0-13	2907728	3709	784	3857	842	3239790	3725	3128341	3650	3065775	320669	2745105	0.1	274511	2470595
D50	14-18	196404	238	784	248	842	218833	239	211305	236	208976	21858	187118	0.1	18712	168406
Dzz	66+	1212722	1465	828	1524	889	1351215	1471	1304733	1442	1278639	133741	1144897	0.1	114490	1030408
Dzz	19-65	5122222	5569	828	5792	889	5707180	5593	5510853	5581	5499556	575235	4924322	0.1	492432	4431890
Dzz	0-13	6213442	7506	828	7806	889	6923018	7538	6684866	7387	6551168	685230	5865939	0.1	586594	5279345
Dzz	14-18	811241	931	828	968	889	903885	935	872791	925	863168	90284	772884	0.1	77288	695596
E10	66+	16080349	14831	1084	15424	1165	17916724	14894	17300389	14596	16954381	1773370	15181011	0.1	1518101	13662910
E10	19-65	34677216	31983	1084	33262	1165	38637354	32118	37308229	31476	36562064	3824266	32737799	0.1	3273780	29464019
E10	0-13	1576483	1454	1084	1512	1165	1756518	1460	1696094	1431	1662172	173857	1488314	0.1	148831	1339483
E10	14-18	414179	382	1084	397	1165	461479	384	445604	376	436692	45676	391015	0.1	39102	351914
Ezz	66+	657072	725	906	754	974	732110	728	706925	714	692787	72463	620324	0.1	62032	558291
Ezz	19-65	4702723	4670	906	4857	974	5239774	4690	5059526	4680	5049154	528124	4521030	0.1	452103	4068927
Ezz	0-13	6143851	6779	906	7050	974	6845479	6808	6609994	6671	6477794	677555	5800239	0.1	580024	5220215
Ezz	14-18	207019	217	906	226	974	230661	218	222726	216	220271	23040	197231	0.1	19723	177508
F10	66+	1614432	1751	922	1821	990	1798800	1758	1736922	1723	1702183	178042	1524141	0.1	152414	1371727
F10	19-65	57308191	62156	922	64642	990	63852786	62419	61656251	61170	60423125	6320050	54103075	0.1	5410308	48692768
F10	0-13	144755	157	922	163	990	161286	158	155738	155	152623	15964	136659	0.1	13666	122993
F10	14-18	922	1	922	1	990	1027	1	992	1	972	102	870	0.1	87	783
F41	66+	1309656	3253	403	3383	432	1459219	3267	1409022	3201	1380841	144431	1236410	0.1	123641	1112769
F41	19-65	14451709	35896	403	37332	432	16102094	36048	15548182	35327	15237218	1593760	13643458	0.1	1364346	12279112
F41	0-13	60390	150	403	156	432	67286	151	64972	148	63672	6660	57012	0.1	5701	51311
F41	14-18	208547	518	403	539	432	232363	520	224369	510	219882	22999	196883	0.1	19688	177195
Fzz	66+	22227992	12218	1819	12707	1954	24766429	12270	23914463	12024	23436174	2451343	20984831	0.1	2098483	18886348
Fzz	19-65	205504316	112959	1819	117477	1954	228972909	113436	221096241	111167	216674316	22663385	194010931	0.1	19401093	174609837
Fzz	0-13	19024236	10457	1819	10875	1954	21196803	10501	20467633	10291	20058281	2098027	17960254	0.1	1796025	16164228
Fzz	14-18	3744083	2058	1819	2140	1954	4171657	2067	4028152	2025	3947589	412904	3534685	0.1	353469	3181217
Gzz	66+	20285851	26456	767	27514	824	22602495	26568	21824969	26036	21388469	2237160	19151309	0.1	1915131	17236178
Gzz	19-65	67730259	79498	767	82678	824	75465054	79834	72869056	79670	72719682	7606228	65113454	0.1	6511345	58602109
Gzz	0-13	21258890	27725	767	28834	824	23686656	27842	22871835	27285	22414398	2344469	20069929	0.1	2006993	18062937
Gzz	14-18	3289069	4075	767	4238	824	3664681	4092	3538616	4047	3499603	366046	3133557	0.1	313356	2820201
H25	66+	23823993	22304	1068	23196	1147	26544693	22398	25631556	21950	25118925	2627353	22491572	0.1	2249157	20242415
H25	19-65	12614839	10629	1068	11054	1147	14055453	10674	13571946	10652	13544124	1416669	12127456	0.1	1212746	10914710

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H25	0-13	253151	237	1068	246	1147	282061	238	272358	233	266911	27918	238993	0.1	23899	215094
H25	14-18	88825	79	1068	82	1147	98969	79	95564	78	94511	9885	84625	0.1	8463	76163
I10	66+	6635946	9045	734	9407	788	7393771	9083	7139425	8902	6996637	731824	6264813	0.1	626481	5638331
I10	19-65	15908989	19516	734	20297	788	17725795	19598	17116028	19558	17080942	1786608	15294334	0.1	1529433	13764901
I10	0-13	108582	148	734	154	788	120982	149	116820	146	114483	11975	102509	0.1	10251	92258
I10	14-18	25485	33	734	34	788	28395	33	27419	33	27116	2836	24280	0.1	2428	21852
I20	66+	4221711	5436	777	5653	834	4703830	5459	4542018	5350	4451178	465578	3985600	0.1	398560	3587040
I20	19-65	11965138	13866	777	14421	834	13331557	13925	12872951	13896	12846563	1343706	11502857	0.1	1150286	10352571
I20	0-13	9319	12	777	12	834	10384	12	10027	12	9826	1028	8798	0.1	880	7918
I20	14-18	4905	6	777	6	834	5465	6	5277	6	5219	546	4673	0.1	467	4206
I21	66+	6953421	9409	739	9785	794	7747502	9449	7480988	9260	7331368	766836	6564533	0.1	656453	5908079
I21	19-65	13005241	17598	739	18302	794	14490439	17672	13991968	17319	13712129	1434241	12277888	0.1	1227789	11050099
I22	66+	4483496	5685	789	5912	847	4995511	5709	4823666	5595	4727192	494448	4232744	0.1	423274	3809470
I22	19-65	17310948	19755	789	20545	847	19287858	19838	18624356	19798	18586178	1944050	16642128	0.1	1664213	14977915
I24	66+	31874193	48316	660	50249	709	35514226	48520	34292537	47550	33606686	3515143	30091543	0.1	3009154	27082388
I24	19-65	12893888	19545	660	20327	709	14366370	19628	13872167	19235	13594724	1421961	12172763	0.1	1217276	10955486
I24	0-13	16493	25	660	26	709	18376	25	17744	25	17389	1819	15570	0.1	1557	14013
I24	14-18	31666	48	660	50	709	35282	48	34068	47	33387	3492	29895	0.1	2989	26905
I61	66+	7328717	3349	2188	3483	2351	8165656	3363	7884758	3296	7727063	808224	6918839	0.1	691884	6226955
I61	19-65	9182232	4196	2188	4364	2351	10230843	4214	9878902	4129	9681324	1012633	8668691	0.1	866869	7801822
I61	0-13	94098	43	2188	45	2351	104844	43	101238	42	99213	10377	88835	0.1	8884	79952
I64	66+	4908826	11911	412	12387	443	5469414	11961	5281266	11722	5175641	541354	4634287	0.1	463429	4170858
I64	19-65	4556871	11057	412	11499	443	5077266	11104	4902608	10882	4804556	502540	4302016	0.1	430202	3871814
I64	0-13	26376	64	412	67	443	29388	64	28377	63	27810	2909	24901	0.1	2490	22411
I70	66+	32529801	9436	3447	9813	3703	36244704	9476	34997886	9286	34297928	3587445	30710484	0.1	3071048	27639435
I70	19-65	15555499	4061	3447	4223	3703	17331937	4078	16735719	4070	16701412	1746910	14954502	0.1	1495450	13459052
I70	0-13	24132	7	3447	7	3703	26888	7	25963	7	25444	2661	22782	0.1	2278	20504
Izz	66+	35619157	44929	793	46726	852	39686865	45119	38321637	44216	37555204	3928145	33627060	0.1	3362706	30264354
Izz	19-65	54382592	61737	793	64206	852	60593084	61998	58508682	61871	58388745	6107261	52281484	0.1	5228148	47053335
Izz	0-13	2668523	3366	793	3501	852	2973269	3380	2870988	3313	2813568	294290	2519279	0.1	251928	2267351
Izz	14-18	1362760	1633	793	1698	852	1518388	1640	1466155	1622	1449991	151664	1298327	0.1	129833	1168494
J03	66+	64343	146	441	152	473	71691	147	69224	144	67840	7096	60744	0.1	6074	54670
J03	19-65	1506716	3077	441	3200	473	1678783	3090	1621033	3084	1617710	169207	1448503	0.1	144850	1303653
J03	0-13	7945002	18028	441	18749	473	8852322	18104	8547802	17742	8376846	876189	7500657	0.1	750066	6750591

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J03	14-18	340038	733	441	762	473	378870	736	365837	728	361803	37843	323960	0.1	32396	291564
J12	66+	2857843	3646	784	3792	842	3184208	3661	3074672	3588	3013178	315168	2698010	0.1	269801	2428209
J12	19-65	7202523	8270	784	8601	842	8025051	8305	7748990	8288	7733105	808856	6924249	0.1	692425	6231824
J12	0-13	31192499	39795	784	41387	842	34754683	39963	33559122	39164	32887939	3439965	29447974	0.1	2944797	26503177
J12	14-18	535479	649	784	675	842	596631	652	576107	645	569755	59594	510161	0.1	51016	459145
J18	66+	448480	504	890	524	956	499696	506	482507	496	472857	49459	423397	0.1	42340	381058
J18	19-65	2497487	2526	890	2627	956	2782700	2537	2686975	2531	2681467	280472	2400995	0.1	240099	2160895
J18	0-13	11809078	13271	890	13802	956	13157675	13327	12705051	13061	12450950	1302326	11148623	0.1	1114862	10033761
J18	14-18	334393	357	890	371	956	372580	359	359764	355	355797	37215	318582	0.1	31858	286724
J20	66+	505195	598	845	622	907	562888	601	543524	589	532654	55714	476940	0.1	47694	429246
J20	19-65	637360	679	845	706	907	710146	682	685717	680	684312	71577	612735	0.1	61274	551462
J20	0-13	17528901	20749	845	21579	907	19530701	20837	18858845	20420	18481668	1933119	16548549	0.1	1654855	14893694
J20	14-18	370826	417	845	434	907	413174	419	398961	414	394562	41270	353293	0.1	35329	317963
J35	66+	73760	100	738	104	792	82183	100	79356	98	77769	8134	69634	0.1	6963	62671
J35	19-65	4787003	5841	738	6075	792	5333679	5866	5150200	5854	5139643	537589	4602054	0.1	460205	4141849
J35	0-13	11319898	15347	738	15961	792	12612630	15412	12178756	15104	11935180	1248379	10686802	0.1	1068680	9618122
J35	14-18	1204224	1551	738	1613	792	1341746	1558	1295590	1540	1281306	134020	1147286	0.1	114729	1032557
J40	66+	569024	614	927	639	996	634007	617	612197	604	599953	62753	537200	0.1	53720	483480
J40	19-65	534426	519	927	540	996	595457	521	574973	520	573795	60017	513778	0.1	51378	462400
J40	0-13	1771018	1911	927	1987	996	1973269	1919	1905388	1881	1867280	195311	1671969	0.1	167197	1504772
J40	14-18	2927	3	927	3	996	3261	3	3149	3	3114	326	2788	0.1	279	2509
J41	66+	24433751	26365	927	27420	996	27224085	26476	26287577	25947	25761825	2694598	23067227	0.1	2306723	20760504
J41	19-65	29755867	28897	927	30053	996	33153987	29019	32013490	28960	31947866	3341636	28606229	0.1	2860623	25745606
J41	0-13	15757522	17003	927	17683	996	17557031	17075	16953069	16733	16614008	1737768	14876240	0.1	1487624	13388616
J41	14-18	163888	168	927	175	996	182604	169	176323	167	174379	18239	156139	0.1	15614	140525
J45	66+	2635591	3325	793	3458	851	2936575	3339	2835557	3272	2778846	290658	2488188	0.1	248819	2239369
J45	19-65	7737936	9762	793	10152	851	8621608	9803	8325025	9607	8158524	853353	7305171	0.1	730517	6574654
J45	0-13	5931466	7483	793	7782	851	6608840	7515	6381496	7364	6253866	654133	5599733	0.1	559973	5039760
J45	14-18	311515	393	793	409	851	347090	395	335150	387	328447	34354	294093	0.1	29409	264683
Jzz	66+	8687287	12137	716	12622	769	9679375	12188	9346404	11945	9159476	958050	8201427	0.1	820143	7381284
Jzz	19-65	25071793	31525	716	32786	769	27934992	31658	26974028	31593	26918734	2815607	24103127	0.1	2410313	21692814
Jzz	0-13	15268781	21332	716	22185	769	17012476	21422	16427247	20994	16098702	1683869	14414834	0.1	1441483	12973350
Jzz	14-18	1660584	2204	716	2292	769	1850222	2213	1786575	2189	1766878	184809	1582069	0.1	158207	1423862
K26	66+	3624447	2276	1592	2367	1711	4038359	2286	3899440	2240	3821451	399711	3421740	0.1	342174	3079566

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K26	19-65	20613558	11650	1592	12116	1711	22967626	11699	22177540	11675	22132078	2314939	19817139	0.1	1981714	17835425
K26	0-13	291421	183	1592	190	1711	324701	184	313531	180	307261	32138	275122	0.1	27512	247610
K26	14-18	222945	133	1592	138	1711	248405	134	239860	132	237216	24812	212404	0.1	21240	191163
K29	66+	1403210	1259	1115	1309	1197	1563457	1264	1509674	1239	1479481	154749	1324732	0.1	132473	1192259
K29	19-65	6834629	5519	1115	5740	1197	7615144	5542	7353183	5531	7338109	767541	6570569	0.1	657057	5913512
K29	0-13	292010	262	1115	272	1197	325358	263	314166	258	307882	32203	275679	0.1	27568	248111
K29	14-18	185366	158	1115	164	1197	206535	159	199430	157	197232	20630	176602	0.1	17660	158942
K35	66+	1842732	1260	1462	1310	1571	2053172	1265	1982543	1240	1942892	203220	1739672	0.1	173967	1565705
K35	19-65	22559657	13883	1462	14438	1571	25135970	13942	24271293	13913	24221539	2533489	21688050	0.1	2168805	19519245
K35	0-13	15309302	10468	1462	10887	1571	17057625	10512	16470842	10302	16141426	1688337	14453088	0.1	1445309	13007779
K35	14-18	7372468	4789	1462	4981	1571	8214404	4809	7931829	4756	7844381	820495	7023886	0.1	702389	6321497
K40	66+	8468548	7138	1186	7424	1274	9435657	7168	9111070	7025	8928849	933927	7994922	0.1	799492	7195430
K40	19-65	26053421	19764	1186	20555	1274	29028722	19847	28030134	19807	27972675	2925845	25046830	0.1	2504683	22542147
K40	0-13	12630452	10646	1186	11072	1274	14072850	10691	13588744	10477	13316969	1392909	11924060	0.1	1192406	10731654
K40	14-18	790519	633	1186	658	1274	880797	636	850497	629	841121	87978	753142	0.1	75314	677828
K50	66+	795365	1011	787	1051	845	886196	1015	855711	995	838597	87714	750882	0.1	75088	675794
K50	19-65	2934434	3357	787	3491	845	3269546	3371	3157074	3364	3150602	329542	2821060	0.1	282106	2538954
K50	0-13	11331005	14403	787	14979	845	12625006	14464	12190706	14175	11946892	1249604	10697288	0.1	1069729	9627559
K50	14-18	192123	232	787	241	845	214064	233	206700	230	204421	21382	183039	0.1	18304	164735
K56	66+	1748382	1164	1502	1211	1613	1948047	1169	1881034	1146	1843414	192815	1650599	0.1	165060	1485539
K56	19-65	3670000	2199	1502	2287	1613	4089114	2208	3948448	2204	3940354	412147	3528207	0.1	352821	3175386
K56	0-13	1488528	991	1502	1031	1613	1658518	995	1601465	975	1569435	164158	1405278	0.1	140528	1264750
K56	14-18	178664	113	1502	118	1613	199068	113	192220	112	190101	19884	170217	0.1	17022	153195
K80	66+	11637292	7443	1564	7741	1680	12966271	7474	12520232	7325	12269827	1283382	10986445	0.1	1098645	9887801
K80	19-65	49610546	28557	1564	29699	1680	55276070	28678	53374573	28619	53265160	5571352	47693809	0.1	4769381	42924428
K80	0-13	18762	12	1564	12	1680	20905	12	20186	12	19782	2069	17713	0.1	1771	15942
K80	14-18	108624	66	1564	69	1680	121028	66	116865	66	115577	12089	103488	0.1	10349	93139
Kzz	66+	15386341	11297	1362	11749	1463	17143462	11345	16553727	11118	16222652	1696833	14525819	0.1	1452582	13073237
Kzz	19-65	57705779	38132	1362	39657	1463	64295779	38293	62084005	38215	61956739	6480461	55476278	0.1	5547628	49928650
Kzz	0-13	9175691	6737	1362	7006	1463	10223555	6765	9871865	6630	9674427	1011912	8662516	0.1	866252	7796264
Kzz	14-18	1417898	989	1362	1029	1463	1579822	993	1525476	982	1508658	157800	1350857	0.1	135086	1215771
L50	66+	778845	1048	743	1090	798	867790	1052	837938	1031	821179	85892	735286	0.1	73529	661758
L50	19-65	4560605	5523	743	5744	798	5081427	5546	4906625	5535	4896567	512164	4384403	0.1	438440	3945963
L50	0-13	1504182	2024	743	2105	798	1675960	2033	1618307	1992	1585941	165884	1420057	0.1	142006	1278051

Valuation of comprehensive benefit package with no exemptions, use of deductible and copayment : INPATIENT (IP)

												Adjustments for deductible		Adjustments for coinsurance		
ICD Code	Age Group	1995 Baseline IP Health Expend.	1994 Number of days	Adj. avg cost per stay: 1995	1996 trend in utilization	1996 trend in expend.	Baseline 1996 inpatient expend.	Reduc-tion in IP days	New expend.	Reduc-tion in IP days	Reduction in expend.	Deductible Amount	Costs after deductible	Apply Coinsu rance?	Coins.	HIF Obligation
L50	14-18	227646	291	743	303	798	253643	292	244917	289	242217	25335	216882	0.1	21688	195194
Lzz	66+	3227325	4545	710	4727	763	3595886	4564	3472188	4473	3402744	355915	3046829	0.1	304683	2742146
Lzz	19-65	19454686	24658	710	25644	763	21676411	24762	20930742	24711	20887836	2184796	18703041	0.1	1870304	16832737
Lzz	0-13	4315172	6077	710	6320	763	4807965	6103	4642571	5981	4549719	475885	4073834	0.1	407383	3666451
Lzz	14-18	1156313	1547	710	1609	763	1288364	1554	1244045	1536	1230329	128688	1101641	0.1	110164	991477
M15	66+	11722019	11497	1020	11957	1095	13060673	11546	12611386	11315	12359158	1292725	11066433	0.1	1106643	9959790
M15	19-65	17139004	15129	1020	15734	1095	19096279	15193	18439367	15162	18401568	1924740	16476827	0.1	1647683	14829145
M15	0-13	25489	25	1020	26	1095	28400	25	27423	25	26875	2811	24064	0.1	2406	21657
M15	14-18	64394	60	1020	62	1095	71748	60	69280	60	68516	7167	61349	0.1	6135	55214
M45	66+	7751224	7914	979	8231	1052	8636414	7947	8339321	7788	8172534	854819	7317716	0.1	731772	6585944
M45	19-65	9194689	8449	979	8787	1052	10244722	8485	9892304	8467	9872025	1032580	8839446	0.1	883945	7955501
M50	66+	2386517	2800	852	2912	916	2659057	2812	2567586	2756	2516234	263189	2253045	0.1	225304	2027740
M50	19-65	18735107	19783	852	20574	916	20874656	19867	20156568	19826	20115249	2103986	18011263	0.1	1801126	16210137
M50	0-13	25570	30	852	31	916	28490	30	27510	30	26960	2820	24140	0.1	2414	21726
M50	14-18	43065	48	852	50	916	47983	48	46332	48	45822	4793	41029	0.1	4103	36926
M60	0-13	979553	1097	893	1141	959	1091418	1102	1053874	1080	1032796	108027	924769	0.1	92477	832292
M88	66+	270560	303	893	315	959	301458	304	291088	298	285266	29838	255429	0.1	25543	229886
M88	19-65	13127088	14701	893	15289	959	14626202	14763	14123060	14468	13840599	1447679	12392920	0.1	1239292	11153628
M88	14-18	2679	3	893	3	959	2985	3	2882	3	2824	295	2529	0.1	253	2276
Mzz	66+	12101183	14999	807	15599	867	13483138	15062	13019318	14761	12758932	1334540	11424392	0.1	1142439	10281952
Mzz	19-65	59140004	73302	807	76234	867	65893792	73612	63627046	72139	62354505	6522066	55832439	0.1	5583244	50249195
Mzz	0-13	11448482	14190	807	14758	867	12755899	14250	12317096	13965	12070754	1262559	10808195	0.1	1080819	9727375
Mzz	14-18	5126403	6354	807	6608	867	5711838	6381	5515351	6253	5405044	565349	4839695	0.1	483969	4355725
N18	66+	5567832	4550	1224	4732	1314	6203679	4569	5990272	4478	5870467	614031	5256436	0.1	525644	4730792
N18	19-65	20462701	16722	1224	17391	1314	22799541	16793	22015237	16457	21574932	2256663	19318269	0.1	1931827	17386442
N18	0-13	326728	267	1224	278	1314	364040	268	351517	263	344487	36032	308455	0.1	30845	277609
N18	14-18	83212	68	1224	71	1314	92714	68	89525	67	87734	9177	78558	0.1	7856	70702
N20	66+	2264091	1938	1168	2016	1255	2522650	1946	2435871	1907	2387154	249688	2137465	0.1	213747	1923719
N20	19-65	14958940	11524	1168	11985	1255	16667251	11573	16093898	11549	16060907	1679915	14380991	0.1	1438099	12942892
N20	0-13	335291	287	1168	298	1255	373581	288	360730	282	353516	36977	316539	0.1	31654	284885
N20	14-18	147570	120	1168	125	1255	164422	121	158766	119	157016	16423	140593	0.1	14059	126533
N40	66+	10637537	9413	1130	9790	1214	11852344	9453	11444624	9264	11215731	1173127	10042604	0.1	1004260	9038344
N40	19-65	5012577	3992	1130	4152	1214	5585013	4009	5392889	4001	5381834	562921	4818913	0.1	481891	4337021
N40	14-18	20223	17	1130	18	1214	22532	17	21757	17	21517	2251	19267	0.1	1927	17340

Valuation of comprehensive benefit package with no exemptions, use of deductible and copayment : INPATIENT (IP)

												Adjustments for deductible		Adjustments for coinsurance		
ICD Code	Age Group	1995 Baseline IP Health Expend.	1994 Number of days	Adj. avg cost per stay: 1995	1996 trend in utilization	1996 trend in expend.	Baseline 1996 inpatient expend.	Reduc-tion in IP days	New expend.	Reduc-tion in IP days	Reduction in expend.	Deductible Amount	Costs after deductible	Apply Coinsu rance?	Coins.	HIF Obligation
N94	66+	3177750	3949	805	4107	864	3540649	3966	3418851	3886	3350474	350448	3000026	0.1	300003	2700023
N94	19-65	114899176	128507	805	133647	864	128020662	129050	123616752	128785	123363349	12903380	110459969	0.1	11045997	99413972
N94	0-13	111853	139	805	145	864	124627	140	120339	137	117933	12335	105597	0.1	10560	95038
N94	14-18	852132	1006	805	1046	864	949446	1010	916785	999	906677	94835	811842	0.1	81184	730658
Nzz	66+	8376702	7867	1065	8182	1144	9333321	7900	9012255	7742	8832010	923798	7908212	0.1	790821	7117391
Nzz	19-65	56866877	48066	1065	49989	1144	63361075	48269	61181454	48170	61056038	6386251	54669787	0.1	5466979	49202808
Nzz	0-13	11172840	10493	1065	10913	1144	12448778	10537	12020540	10327	11780130	1232161	10547969	0.1	1054797	9493172
Nzz	14-18	1830318	1633	1065	1698	1144	2039340	1640	1969187	1622	1947477	203699	1743777	0.1	174378	1569399
O02	19-65	27235822	17408	1565	18104	1681	30346152	17482	29302245	17132	28716200	3003615	25712585	0.1	2571258	23141326
O02	14-18	500658	320	1565	333	1681	557834	321	538644	315	527871	55214	472658	0.1	47266	425392
O03	19-65	7450853	5435	1371	5652	1473	8301740	5458	8016160	5349	7855837	821693	7034143	0.1	703414	6330729
O03	14-18	105559	77	1371	80	1473	117614	77	113568	76	111297	11641	99656	0.1	9966	89690
O04	19-65	7118375	4758	1496	4948	1607	7931293	4778	7658457	4683	7505288	785027	6720261	0.1	672026	6048234
O04	0-13	1496	1	1496	1	1607	1667	1	1610	1	1577	165	1412	0.1	141	1271
O04	14-18	215436	144	1496	150	1607	240039	145	231782	142	227146	23759	203387	0.1	20339	183049
O08	19-65	2658050	2149	1237	2235	1329	2961599	2158	2859720	2115	2802526	293135	2509391	0.1	250939	2258452
O08	0-13	0	0	1237	0	1329	0	0	0	0	0	0	0	0.1	0	0
O08	14-18	108845	88	1237	92	1329	121275	88	117103	87	114761	12004	102758	0.1	10276	92482
Ozz	19-65	28842433	34645	833	36031	894	32136239	34791	31030752	34096	30410137	3180795	27229342	0.1	2722934	24506408
Ozz	0-13	24975	30	833	31	894	27828	30	26870	30	26333	2754	23579	0.1	2358	21221
Ozz	14-18	923258	1109	833	1153	894	1028694	1114	993307	1091	973440	101819	871622	0.1	87162	784460
P90	0-13	4812761	5781	833	6012	894	5362378	5805	5177913	5689	5074354	530760	4543594	0.1	454359	4089235
Pzz	0-13	38580825	15570	2478	16193	2662	42986755	15636	41508011	15323	40677851	4254763	36423088	0.1	3642309	32780779
Qzz	66+	848486	560	1515	582	1628	945384	562	912862	551	894605	93573	801033	0.1	80103	720929
Qzz	19-65	16643970	10985	1515	11424	1628	18544712	11031	17906774	10811	17548638	1835527	15713111	0.1	1571311	14141800
Qzz	0-13	47648573	31448	1515	32706	1628	53090040	31581	51263743	30949	50238468	5254770	44983698	0.1	4498370	40485328
Qzz	14-18	4180311	2759	1515	2869	1628	4657702	2771	4497477	2715	4407528	461012	3946516	0.1	394652	3551864
R10	66+	646391	439	1472	457	1582	720209	441	695434	432	681525	71285	610240	0.1	61024	549216
R10	19-65	3483086	2129	1472	2214	1582	3880854	2138	3747353	2134	3739671	391157	3348514	0.1	334851	3013663
R10	0-13	1581377	1074	1472	1117	1582	1761970	1079	1701358	1057	1667331	174397	1492934	0.1	149293	1343640
R10	14-18	416927	269	1472	280	1582	464540	270	448560	267	443614	46401	397214	0.1	39721	357492
R30	66+	562675	659	854	685	917	626933	662	605366	649	593259	62053	531206	0.1	53121	478085
R30	19-65	6438839	6787	854	7058	917	7174155	6816	6927364	6802	6913163	723093	6190070	0.1	619007	5571063
R30	0-13	165643	194	854	202	917	184560	195	178211	191	174647	18267	156379	0.1	15638	140741

Valuation of comprehensive benefit package with no exemptions, use of deductible and copayment : INPATIENT (IP)

												Adjustments for deductible		Adjustments for coinsurance		
ICD Code	Age Group	1995 Baseline IP Health Expend.	1994 Number of days	Adj. avg cost per stay: 1995	1996 trend in utilization	1996 trend in expend.	Baseline 1996 inpatient expend.	Reduc-tion in IP days	New expend.	Reduc-tion in IP days	Reduction in expend.	Deductible Amount	Costs after deductible	Apply Coinsu rance?	Coins.	HIF Obligation
R30	14-18	174361	194	854	202	917	194273	195	187590	193	185522	19405	166117	0.1	16612	149506
R50	66+	949348	1182	803	1229	863	1057763	1187	1021376	1163	1000949	104696	896253	0.1	89625	806628
R50	19-65	1911546	2142	803	2228	863	2129845	2151	2056578	2147	2052362	214670	1837692	0.1	183769	1653923
R50	0-13	4784488	5957	803	6195	863	5330876	5982	5147494	5863	5044544	527642	4516902	0.1	451690	4065212
R50	14-18	42272	50	803	52	863	47100	50	45479	50	44978	4705	40273	0.1	4027	36246
Rzz	66+	3230022	3335	969	3468	1040	3598890	3349	3475089	3282	3405587	356213	3049374	0.1	304937	2744437
Rzz	19-65	7670697	7128	969	7413	1040	8546690	7158	8252684	7143	8235767	861433	7374334	0.1	737433	6636901
Rzz	0-13	2578206	2662	969	2768	1040	2872638	2673	2773819	2620	2718342	284329	2434013	0.1	243401	2190612
Rzz	14-18	550528	540	969	562	1040	613399	542	592298	536	585768	61269	524499	0.1	52450	472049
S00	66+	333068	276	1207	287	1296	371105	277	358339	272	351172	36731	314440	0.1	31444	282996
S00	19-65	1702885	1270	1207	1321	1296	1897355	1275	1832086	1273	1828330	191237	1637093	0.1	163709	1473384
S00	0-13	506843	420	1207	437	1296	564724	422	545298	413	534392	55896	478496	0.1	47850	430647
S00	14-18	158785	125	1207	130	1296	176919	126	170833	124	168949	17672	151278	0.1	15128	136150
S20	66+	401822	373	1077	388	1157	447710	375	432309	367	423663	44314	379349	0.1	37935	341414
S20	19-65	3260539	2724	1077	2833	1157	3632893	2736	3507922	2730	3500731	366164	3134566	0.1	313457	2821110
S20	0-13	303790	282	1077	293	1157	338483	283	326839	278	320303	33503	286800	0.1	28680	258120
S20	14-18	105459	93	1077	97	1157	117503	93	113460	92	112210	11737	100473	0.1	10047	90426
S42	66+	673400	636	1059	661	1137	750302	639	724492	626	710002	74264	635738	0.1	63574	572164
S42	19-65	1954083	1661	1059	1727	1137	2177239	1668	2102342	1665	2098033	219447	1878586	0.1	187859	1690727
S42	0-13	1226096	1158	1059	1204	1137	1366116	1163	1319122	1140	1292739	135216	1157523	0.1	115752	1041771
S42	14-18	361108	324	1059	337	1137	402347	325	388506	322	384223	40188	344034	0.1	34403	309631
S82	66+	1978529	1668	1186	1735	1274	2204477	1675	2128643	1642	2086071	218196	1867875	0.1	186787	1681087
S82	19-65	10060029	7633	1186	7938	1274	11208884	7665	10823298	7650	10801112	1129759	9671353	0.1	967135	8704217
S82	0-13	944190	796	1186	828	1274	1052017	799	1015827	783	995511	104127	891384	0.1	89138	802246
S82	14-18	385817	309	1186	321	1274	429877	310	415090	307	410513	42938	367575	0.1	36757	330817
Szz	66+	56416242	26198	2153	27246	2313	62858976	26309	60696628	25782	59482695	6221685	53261010	0.1	5326101	47934909
Szz	19-65	170118242	71098	2153	73942	2313	189545746	71398	183025372	71252	182650188	19104579	163545609	0.1	16354561	147191048
Szz	0-13	32980179	15315	2153	15928	2313	36746516	15380	35482436	15072	34772787	3637113	31135674	0.1	3113567	28022106
Szz	14-18	11442785	5048	2153	5250	2313	12749552	5069	12310967	5013	12175239	1273488	10901751	0.1	1090175	9811576
Zzz	66+	1287373	1337	963	1390	1034	1434392	1343	1385048	1316	1357347	141974	1215374	0.1	121537	1093836
Zzz	19-65	8247086	8565	963	8908	1034	9188903	8601	8872805	8429	8695349	909503	7785845	0.1	778585	7007261
Zzz	0-13	1726448	1793	963	1865	1034	1923608	1801	1857436	1765	1820287	190396	1629891	0.1	162989	1466902
Zzz	14-18	335083	348	963	362	1034	373349	349	360506	342	353296	36954	316343	0.1	31634	284708
		2973029506			2623980		3312549476		3198597774		3154464941	329946143	2824518797		282451880	**2542066918**

Outpatient Cost Simulation Model: Part 1 (visits and costs in 100,000s)

Simulation			Deductible Effect: Outpatient (no dental)				Coinsurance Effect (no dental)			
Municipality	Primary Care Copay	HIF Primary Care Obligation	Reduction in Visits	Reduction in expend. (induction)	Deductible Amount	Costs after deductible	Coins. induction	Coins. Level	Coins.	HIF Obligation: Secondary & Tertiary
Berovo	23.9	**275.9**	1.3	123.6	37.0	86.7	83.8	0.1	8.4	**75.4**
Bitola	124.5	**1485.1**	9.7	1322.0	395.3	926.7	896.1	0.1	89.6	**806.5**
Debar	11.2	**327.9**	0.6	145.5	43.5	102.0	98.6	0.1	9.9	**88.8**
Delchevo	26.9	**390.2**	1.2	80.4	24.0	56.3	54.5	0.1	5.4	**49.0**
Demir Hisar	17.8	**132.7**	0.8	26.0	7.8	18.2	17.6	0.1	1.8	**15.9**
Gevgelija	37.6	**402.1**	2.2	226.8	67.8	159.0	153.7	0.1	15.4	**138.4**
Gostivar	64.1	**646.7**	3.5	287.1	85.8	201.3	194.6	0.1	19.5	**175.2**
Kavadarci	49.5	**458.4**	2.8	240.2	71.8	168.4	162.8	0.1	16.3	**146.6**
Kichevo	36.1	**357.0**	2.2	218.0	65.2	152.8	147.8	0.1	14.8	**133.0**
Kochani	42.7	**369.1**	2.4	172.4	51.6	120.9	116.9	0.1	11.7	**105.2**
Kratovo	9.5	**114.2**	0.5	35.6	10.6	25.0	24.1	0.1	2.4	**21.7**
Krushevo	12.6	**131.1**	0.9	125.8	37.6	88.2	85.3	0.1	8.5	**76.7**
Kriva Palanka	20.3	**322.1**	0.9	57.5	17.2	40.3	38.9	0.1	3.9	**35.1**
Kumanova	120.8	**1152.8**	7.1	639.6	191.2	448.3	433.6	0.1	43.4	**390.2**
Makedonski Brod	6.4	**107.4**	0.3	37.3	11.2	26.2	25.3	0.1	2.5	**22.8**
Negotino	22.5	**206.8**	1.6	175.3	52.4	122.9	118.8	0.1	11.9	**107.0**
Ohrid	69.1	**862.7**	4.3	551.2	164.8	386.4	373.7	0.1	37.4	**336.3**
Prilep	119.5	**1141.7**	6.6	536.1	160.3	375.8	363.4	0.1	36.3	**327.0**
Probishtip	16.8	**246.6**	0.8	76.7	22.9	53.8	52.0	0.1	5.2	**46.8**
Radovish	31.7	**466.6**	1.6	145.5	43.5	102.0	98.6	0.1	9.9	**88.8**
Resen	18.7	**267.6**	1.0	99.1	29.6	69.5	67.2	0.1	6.7	**60.4**
Shtip	45.5	**498.4**	2.8	301.5	90.1	211.3	204.4	0.1	20.4	**183.9**
Skopje	583.3	**8089.2**	42.5	4937.0	1476.1	3460.9	3346.7	0.1	334.7	**3012.0**
Struga	53.6	**826.0**	3.1	380.5	113.8	266.7	257.9	0.1	25.8	**232.1**
Strumitsa	69.3	**827.1**	3.7	328.9	98.3	230.5	222.9	0.1	22.3	**200.6**
Sveti Nikole	27.8	**214.4**	1.9	169.6	50.7	118.9	115.0	0.1	11.5	**103.5**
Tetovo	124.6	**1572.4**	5.6	264.0	78.9	185.1	179.0	0.1	17.9	**161.1**
Veles	96.5	**679.7**	5.6	373.7	111.7	262.0	253.3	0.1	25.3	**228.0**
Valandovo	15.0	**67.4**	1.8	163.0	48.7	114.3	110.5	0.1	11.1	**99.5**
Vinica	19.2	**243.3**	1.0	99.1	29.6	69.5	67.2	0.1	6.7	**60.5**
Grand Totals	1917.2	**22882.7**	120.4	12339.0	3689.2	8649.7	8364.3		836.4	**7527.9**

Outpatient Cost Simulation Model: Part 2 (visits and costs in 100,000s)

	Dental Estimates								
Municipality	Reduction in Dental Visits	Reduction in expend. (induction)	Deductible Amount	Costs after deductible	Coinsurance induction	Coins. Level	Coins.	HIF Obligation: dental	Total HIF Obligations
Berovo	0.3	155.7	13.9	141.8	137.1	0.1	13.7	**123.4**	**475**
Bitola	1.3	439.4	39.3	400.1	386.8	0.1	38.7	**348.2**	**2640**
Debar	0	42.3	3.8	38.5	37.2	0.1	3.7	**33.5**	**450**
Delchevo	0.2	65.1	5.8	59.2	57.3	0.1	5.7	**51.6**	**491**
Demir Hisar	0.1	51.5	4.6	46.9	45.3	0.1	4.5	**40.8**	**189**
Gevgelija	0.2	153.6	13.7	139.8	135.2	0.1	13.5	**121.7**	**662**
Gostivar	0.5	356	31.9	324.1	313.5	0.1	31.3	**282.1**	**1104**
Kavadarci	0.4	171.8	15.4	156.4	151.2	0.1	15.1	**136.1**	**741**
Kichevo	0.4	244.8	21.9	222.9	215.5	0.1	21.5	**193.9**	**684**
Kochani	0.3	165.1	14.8	150.4	145.4	0.1	14.5	**130.9**	**605**
Kratovo	0.1	57.8	5.2	52.7	50.9	0.1	5.1	**45.8**	**182**
Krushevo	0.2	32.9	2.9	30	29	0.1	2.9	**26.1**	**234**
Kriva Palanka	0.1	69.5	6.2	63.3	61.2	0.1	6.1	**55.1**	**412**
Kumanova	0.9	0.4	0	0.4	0.4	0.1	0	**0.3**	**1543**
Makedonski Brod	0.1	4.1	0.4	3.8	3.6	0.1	0.4	**3.3**	**133**
Negotino	0.2	57.1	5.1	52	50.3	0.1	5	**45.2**	**359**
Ohrid	0.7	219.2	19.6	199.6	193	0.1	19.3	**173.7**	**1373**
Prilep	1.1	548.9	49.1	499.8	483.3	0.1	48.3	**434.9**	**1904**
Probishtip	0.1	74.1	6.6	67.5	65.2	0.1	6.5	**58.7**	**352**
Radovish	0.2	40.8	3.6	37.1	35.9	0.1	3.6	**32.3**	**588**
Resen	0.1	68.5	6.1	62.4	60.3	0.1	6	**54.3**	**382**
Shtip	0.3	141.9	12.7	129.2	125	0.1	12.5	**112.5**	**795**
Skopje	2.1	2001.8	179.1	1822.7	1762.6	0.1	176.3	**1586.3**	**12687**
Struga	0.3	149	13.3	135.7	131.2	0.1	13.1	**118.1**	**1176**
Strumitsa	0.9	224.4	20.1	204.3	197.6	0.1	19.8	**177.8**	**1206**
Sveti Nikole	0.1	52.4	4.7	47.7	46.1	0.1	4.6	**41.5**	**359**
Tetovo	0.6	460.4	41.2	419.2	405.4	0.1	40.5	**364.8**	**2098**
Veles	0.8	375.9	33.6	342.3	331	0.1	33.1	**297.9**	**1206**
Valandovo	0.1	27.2	2.4	24.8	23.9	0.1	2.4	**21.5**	**188**
Vinica	0.2	80.9	7.2	73.7	71.2	0.1	7.1	**64.1**	**368**
Grand Totals	13	6532.4	584.5	5947.8	5751.5		575.2	**5176.4**	**35587**