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# CHARACTERISTICS OF HEALTH INSURANCE CONTRACTS

REVIEW ARTICLE

**Abstract**

The problems of health care and its management are almost inseparable from the analysis of health care coverage, while comparable issues hardly ever arise in the analysis of life insurance. Perhaps, in one respect, the two types of coverage are similar: most demands for life and health insurance spring from individuals as isolated entities, not as groups - members of organizations. In other respects, the two types of coverage bear little resemblance to each other.

The subject of this paper is health insurance, and the goal of the paper is to point out the importance of this type of insurance, socially speaking. The dramatic rise in the cost of providing health care that accompanied the shifting burden has placed the issues of health care and health insurance coverage at the forefront of organizations concerns.

***Key words***: *Health care, insurance, contract, health care provider, covered.*
*JEL: G22, I13*

## I. Definitions and Historical Background

Universal health care is a program of health insurance mandated by the federal government, in which virtually the entire population becomes entitled to coverage for health care services. Health care provider is an individual or entity engaged in the

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business of providing health care services to consumers. Disability income insurance is an insurance policy that provides income replacement benefits if the insured becomes disabled. Service contract isa type of coverage for health care services that stipulates the provision of services in kind, rather than cash benefits. Medical expense reimbursement contract is a type of coverage for health care services that stipulates the reimbursement of the costs of medical services rather than the provision of the services, and is also known as medical expense insurance. Health insurance is organized through the association of people for the purpose of covering the risks jeopardising human health and abilities. The consequences of such risks and of such a condition are mainly the costs of treatment.[2] Organization of the above mentioned protection is possible through mandatory and non-mandatory types of health care. The organizations themselves can be founded with the aim of making a profit or subordinating their function to the social protection of citizens. The concept of health insurance was developed in the 17th century, more precisely in 1694, by its founder, Hugh Chamberlain, from the family of Peter Chamberlain.. This health care program covered the risks of an accident with consequences of disability, temporary and permanent.[3]

The concept of compulsory health insurance was developed in the first half of the 20th century. The first organizations were created and developed as of 1929. The first forms of billing for hospital services were based on the subscription of users of those services. Based on that, the Blue Cross organization has been developed.

As evidence of the existence of health care insurance, there is a policy certified by the insurance company and the user of the service. The policy generally includes one year of health insurance and is renewable. It can last shorter and longer than a year. The insurance policy defines the risks covered and the amount of costs covered by the insurance company.[4] Based on the health care contract, the obligations of the health care user refer to the following:

1. *Payment of the premium* to the insurance company, [5]
2. *Payment of expenses* that the insurance company is not obliged to pay according to the contract, e.g. for the sum insured of EUR 30,000.00, the insured is obliged to cover costs up to EUR 50.00,
3. *Co-payment* as part of access to the healthcare system, which is paid by the insured toa particular amount, e.g. from 50.00 rsd.
4. *Coinsurance*: Participation in some costs of health treatments, if the insurance company does not cover the full amount thereof, for example,

[2] J. Banyar, *Life insurance. Budapest*: Corvinus University of Budapest + Central Administration of National Pension Insurance, 2003

[3] J. Yoder, Rao, A., Bajowala, M., & Sunder, A. (2012). Life insurance 2020: Competing for a future. PricewaterhouseCoopers (PWC), 2020

[4] K. Aase, *Life insurance and pension contracts II: The life cycle model with recursive utility.* ASTIN Bulletin, 46, 2016, pp. 71–102

[5] Ž. Vojinović, N. Žarković, *Osiguranje*, Ekonomski fakultet u Subotici, 2016, pp. 98-100

the surgery costs coverage is contracted at 20% versus 80%, the insured being obliged to pay a lower amount as a contribution.

5. *Exclusions*: not all risks and services are covered and the policyholders are obliged to pay the balance
6. *Limitations regarding the period and amount of coverage*. A certain amount of coverage is contracted. It is one of the factors that affects the level of premium. Another factor is time, the premium being higher for a longer period of time, , in absolute terms; however, as a service price, the premium is lower as per unit of time. In addition to these two factors, there are others that affect the premium level;[6]
7. *Maximum coverage out of the insured's pocket,* implies that some of the services are covered by the insured himself and everything else is paid by the insurance company;
8. *Capitation*: when health care includes family members of the insured;[7]
9. *A network of health institutions,* a plan or a network of health institutions allows for higher quality services and lower costs of service provision, so that it is possible to expect premium discounts;
10. *A health insurance certificate or card means* that the insurer accepted the costs before the health services were provided;
11. *Confirmation of discounts, benefits and calculation of costs, a document providing the insured with a written* statement of benefits and costs showing the obligations and entitlements of the insured.

The difference in costs for purchasing medicines arises from the lists of medicines. Some medicines are on the discounted list, while the others are not discounted.

## II. Health insurance and moral hazards

Coverage provisions under the health care plans are often designed to create financial incentives or impose restrictions on the behaviour of insured persons and providers of medical services. These provisions are directed toward controlling a problem that was previously described as a *moral hazard*, which can be especially strong in health insurance.[8] It goes without saying that moral hazards are present in virtually all lines of insurance. Many insurance contract provisions can be explained as methods to control eventual moral hazards (e.g., deductibles on property coverage and the suicide exclusion in life insurance). In health insurance, however,

[6] N. Žarković, Mere sprečavanja u životnim osiguranjima - Živeti zdravije. *Svet osiguranja*, 2017, pp. 1-2
[7] K. Monks, & Risk, C. (2016). Automating Life Insurance Underwriting – A Closer Look, *https://captricity.com/blog/automating-life-insuranceunderwriting-a-closer-look,* 2016
[8] M. Batty, & Kroll, A., *Automated Life Underwriting*, 2009, pp. 18-22

control of moral hazards takes on a special importance, in some cases being the primary consideration driving the design of the coverage.[9]

With coverage for health care services, control of behaviour of health care providers and consumers takes on a special relevance. An important difference that distinguishes this type of coverage from other insurance contracts, including disability income insurance, is the presence of *health care providers*, such as hospitals and physicians. Health care providers interact with consumers of health care services and with health care insurers. These interactions create the possibility of moral hazards that are complex and difficult to control, as compared with moral hazards arising in other types of coverage where the only interaction is between the insurer and the insured.[10]

The event triggering coverage is often a service provided by a health care provider to the insured person. Typically, the knowledge and information of health care providers about the insured's state of health, possible effects of the insured's habits on his or her state of health, and alternative methods for discovering and treating health conditions are superior to those of consumers of health care services. This superior information places health care providers in a position to strongly affect the consumption of health care services.

In the absence of health care insurance, limits on the consumer's financial resources and his or her willingness to allocate them to the consumption of health care services provide natural restraints against uneconomic usage of health care services. Insurance that provides an access to health care can remove those restraints. If the insurance coverage reimburses the health care provider without requiring any payment from the consumer, the coverage removes the mentioned restraints while not diminishing any financial incentive for the provider to discourage further consumption of health care services. Even under universal coverage, the effect of coverage provisions on the consumers and providers of medical services is unlikely to disappear as an issue as long as the reimbursement to providers is based on the level of services.

However, for moral hazards to occur, it is not necessary to have a health care professional A *disability income insurance* policy providing income replacement benefits in case of disability of the insured may affect the insured's willingness to continue working.[11] The insured's willingness to work becomes weaker as income replacement benefits from all sources, including the disability income coverage, increase relative to earnings. Therefore, insurers writing disability income coverage

[9] R.G. Eccles, & M. Vollbracht, „Media Reputation of the Insurance Industry: An Urgent Call for Strategic Communications Management", *The Geneva Papers*, 31, 2006, pp. 395-408

[10] G. Dickinson, *Encouraging a dynamic life insurance industry: economic benefits and policy issues*, 2012, *http://www.oecd.org/finance/insurance/1857811.pdf.*

[11] O. Gursez, Marine insurance law. London: Routledge, 2015, pp. 211-212

consider benefits from all sources, including other disability income policies and Social Security, when they underwrite coverage. Moreover, disability income policies may include a provision that reduces the benefit when total income replacement benefits from all sources exceed a stated percentage (e.g., 70 per cent) of earnings before disablement.

Also, a problem could arise if the condition triggering the benefit (disability) is not explicit in meaning; a hand injury might disable a surgeon, but it will not disable a business executive, for example. The circumstances leading to disability would be expected to vary among individuals and occupations, which creates the possibility of disputes between the insurers and their insureds if the conditions triggering the benefit are not defined clearly. Unfortunately, definitions with the clearest meaning often are the most restrictive.[12] Defining disability as "hospital-confined", for example, leaves little room for dispute over the meaning of the term, but the coverage is not significant. Typically, only the most serious medical conditions lead to hospitalization, with the average confinement period being only a few days. Defining disability as "unable to perform duties of the insured's occupation" provides coverage for a condition more closely related to loss of income, but subjective aspects of the definition increase the likelihood of disputes.

## III. Insurance for health care services

The analysis of insurance coverage for health care services can follow the same framework used for property and liability coverage: determining the events covered and the resulting amount of recovery. In coverage for health care services, the form of recovery becomes an important consideration, especially when the coverage is to provide the services in kind, rather than reimburse the cost of the services provision. This framework can be used to analyse coverage proposed or mandated under universal programmes and/or private schemes.

Under the coverage for health care services, the event triggering coverage is the delivery of a health care service to a covered person under covered circumstances. The level of benefits may also depend on circumstances giving rise to coverage. Hence the meaning of "covered person" and "covered circumstances" is relevant. For example, the distinction between work-related injuries and other medical conditions has become relevant recently, because reimbursement of health care services arising from occupational injuries has been more generous than reimbursement of health care services generally. This distinction, which is likely to disappear under universal coverage, is an example of a narrowly defined set of circumstances affecting benefit levels under the health care coverage.

[12] H. Gründl, M.I. Dong, J. Gal, The evolution of insurer portfolio investment strategies for long-term investing. OECD Journal: *Financial Market Trends*, 2016(1), pp. 1-57

This type of distinction may continue to affect benefit levels, even under universal coverage. Often coverage for health care services provides an indemnity for *accidental injuries* on a more favourable basis than other terms and conditions. The logic behind this distinction is that the consumer has less control over the level of medical services provided because the injury is accidental.

Coverage for *illness*, which includes a broad range of circumstances triggering benefits, still requires an occurrence of illness for a coverage to apply. Under the illness coverage, a diagnosis of a medical condition is a typical requirement for coverage. For example, an electrocardiogram performed to investigate a suspected heart murmur may be covered by provisions of a policy applying to illness, while the same examination performed as a part of a routine physical examination may be covered under less favourable terms and conditions, unless it reveals an abnormal condition.

The broadest scope of the coverage is provided under the health care services generally, including *preventive care*. Coverage for preventive care often is detailed and complex, with limits on benefits that vary by category of service, even among specific services. Explicit limits on frequency are often imposed on services over which the insured and the care provider have some discretion. For example, a policy may impose an age-based limit on the frequency of routine check-ups, such as once every two years before the age of 40 and once a year for persons aged 40 and above.

As a rule, nearly all coverages for health care services have benefits that are affected by the circumstances under which medical services are provided.[13] When the scope of coverage is narrow (e.g., accident coverage), the definition of the conditions giving rise to benefits places natural limits on covered services. When the scope of coverage is broad (e.g., the inclusion of preventive care), greater reliance is placed on explicit controls, such as limits on the frequency of covered services, or limits on the amount payable for services over which the provider and the consumer of medical services have some degree of discretion.

Coverage for health care services often contains *exclusions*, such as elective cosmetic surgery or injury resulting from an attempted suicide. An exclusion of optional cosmetic surgery could well survive a change to a system of mandatory universal coverage, although a suicide exclusion is unlikely to persist. The logic behind suicide exclusions from a health care coverage is not evident, as many of the same policies provide benefits for mental conditions. Only the most severe mental distress would be expected to result in an attempted suicide and drawing the line at this point may create additional incentives. The presence of the exclusion creates an incentive for the health care providers who provide the first level of services following the suicide attempt (e.g., hospital emergency room attendants) to substitute some other diagnosis (e.g., accident) that is not likely to be disputed by the victim.

[13] N. Coe, & A. Belbase, *How do people decide on life insurance and long-term disability insurance coverage*? Working Paper, No. 2015-4, Boston: Center for Retirement Research at Boston College, 2015

In some cases, coverage may not apply for services provided by those categories of medical providers or medical procedures that are deemed experimental. In place of outright exclusions, limits on benefits for these types of services may appear.[14] Outright exclusions can lead to disputes, while limits or other types of financial incentives may be less likely to lead to disputes.

An exclusion of a *pre-existing condition* has been common in health insurance coverage. Typically, this exclusion applies to a medical condition that already was diagnosed before the commencement of coverage, as an example by a chronic illness or an allergy. Treatment of a pre-existing condition is often not covered during some initial period of a policy validity, after which the subject condition is covered under the same terms and conditions as other conditions. This type of exclusion has been developed because insurers and employers do not want to bear the cost of medical conditions that developed before the inception of coverage and which were known to the insured at the time the coverage was issued.

This type of exclusion is likely to disappear under universal coverage. As the burden of financing health care is consolidated across the ever larger groups, the concern with allocating the costs of a specific individual or condition tends to decline in importance. Hence an exclusion for pre-existing conditions is unlikely to be an important issue in coverage offered by health care financing organizations consolidating coverage across large geographic areas.

## IV. Form of recovery

Coverage for health care can be grouped into two broad categories according to the form of recovery:

- service contracts, which provide medical services;
- medical expense reimbursement (or indemnity) contracts, which reimburse the cost of medical services.

In the United States, Blue Cross and Blue Shield offered service contracts as early forms of coverage for health care. Medical expense insurance, which was developed later, grew in importance from 1950 through 1980. Since 1980, medical expense insurance has lost in significance relative to service plans. Even under universal coverage, however, medical expense insurance may survive in the form of coverage applying to "gaps" in coverage requiring payments from the covered person.[15] Furthermore, many service contracts provide for a hybrid coverage requiring

[14] Decision on the Content and Layout of Financial Statement Forms for Insurance Undertakings. *RS Official Gazette*, No. 135/2014, 141/2014 and 102/2015

[15] N. Coe, & A. Belbase, *How do people decide on life insurance and long-term disability insurance coverage*? Working Paper, No. 2015-4, Boston: Center for Retirement Research at Boston College, 2015

financial contribution of the costs of services through deductibles and other cost-sharing provisions.[16]

Under a pure service contract, the insuring organization undertakes to provide a package of medical services to the subscriber. The consumer of medical services may never become involved in the financial transaction between the insurer and the provider of medical services. Instead, the insurer reimburses the provider directly for medical services provided to the covered person ("fee-for-service" reimbursement) or pays to an organization of providers a fixed amount per covered individual in return for the provider's promise to render medical services to these individuals (a "capitation" arrangement).

Under a medical expense reimbursement contract, the insuring organization undertakes to reimburse for the costs of medical services rather than provide the services in kind. Most coverages applying to health care services is a hybrid of a service contract and an expense reimbursement contract. The hybridization may be a result of the financial participation mentioned above or by the coverage reimbursing the cost of medical services in some cases and directly paying the provider in others. Some medical expenses coverages provide for assignment by allowing the policyholder to elect payment of benefits directly to a provider of medical services[17]. Coverage may also be a service contract, if the policyholder uses a particular clinic or hospital, but it shall become the expense reimbursement coverage if the policyholder uses other providers outside the network of clinics or hospitals.

## V. Forms of recovery and types of insuring organizations

Although the distinction between the form of recovery may seem largely semantic, it can have important effects on the recovery of medical services. The insuring organization writing a service contract often negotiates with the provider of medical services, perhaps receiving discounts from the providers' regular *charges* to the public (and to other insurers) for their services. In return, the insuring organization provides financial incentives to attract subscribers to the *network*, the selected set of providers with whom the insuring organization has contractual agreements.[18]

Generalizations about the effect of the insuring organization on the form and amount of recovery can be misleading, because terminology for describing organizational forms is not standard. The extent to which the distinctions noted

[16] EIOPA Financial Stability Report. December 2016. Frankfurt: *European Insurance and Occupational Pensions Authority* (EIOPA).

[17] R. Doff, The Final Solvency II Framework: Will It Be Effective? *The Geneva Papers on Risk and Insurance* - Issues and Practice, 41(4),2016, pp. 587-607

[18] R. Chen, & K.A. Wong, The Determinants of Financial Health of Asian Insurance Companies, 2004, *The Journal of Risk and Insurance*, 71(3), 2004, pp. 469-499

below will survive the enactment of universal coverage is uncertain. Insurance companies already administer portions of Medicare, for example, and presumably will administer some universal health care programmes when they come into effect.

One form of insuring organization is the *Health Maintenance Organization (HMO)*, a generic term applied to a collective agreement between a group of medical care providers and subscribers. An *open panel* HMO attempts to include a large proportion of the medical providers into a community, while a *closed panel* plan negotiates with a smaller network of providers. HMOs can be organized by medical providers themselves or by other organizations, such as life and health insurance companies. Insurance companies also sell medical expense reimbursement contracts, and an insurance company may serve as a *third-party administrator (TPA)* for health benefit programmes sponsored by employers or other organizations. In a programme managed by a TPA, the role of the TPA is to administer the plan according to terms set by the plan sponsor. The plan sponsor (e.g., the employer) effectively is the insurer, unless the TPA provides financial guarantees as well., as part of its involvement in the program.[19]

In the area of health insurance and health care financing, Blue Cross/Blue Shield organizations deserve special attention, because of their size and long history. Blue Cross/Blue Shield plans resemble open-panel HMOs in that the Blue Cross/Blue Shield organizations attempt to reach an agreement with the majority of medical providers in an area. Service contracts have always been the dominant type of coverage offered by Blue Cross/ Blue Shield plans. Many Blue Cross/Blue Shield organizations were founded in the 1930s as local associations of health care providers, controlled primarily by the providers. Initially, Blue Cross was the hospital service association, while the Blue Shield was the association covering physicians' services.

The Blue Cross/ Blue Shield organizations today bear little resemblance to small local associations, as they are neither local nor small. Although the early Blues plans were local, a series of mergers and consolidations had by 1990 led to a single or a few surviving plans for each state. Many Blue Cross/Blue Shield organizations continue to enjoy support from providers of medical services. The organizations continue to offer service contracts, typically reimbursing the provider of medical services directly. Blue Cross/Blue Shield organizations serve as TPAs for plans sponsored by employers and other organizations, and they also administer portions of Medicare. Blue Cross/Blue Shield organizations continue to be an important force affecting the delivery and financing of health care in the United States.

On service contracts, financial incentives to use in-network providers usually take the form of services from network providers being reimbursed more favourably than services provided out-of-network. In an *exclusive provider organisation (EPO)*

[19] FERMA. European Risk and Insurance Report 2016. Paris: *Federation of Risk Management Insurance Associations* (FERMA).

*plan,* these incentives are quite strong; services from out-of-network providers may receive no reimbursement. A somewhat less severe set of incentives is found in a *preferred provider organization (PPO)* plan, in which services from in-network providers receive favoured treatment. For example, services from network providers may be reimbursed at 80 per cent of rates that already reflect negotiated discounts, while services from out-of-network providers may be reimbursed at 60 per cent of charges.

When the subscriber receives medical services from an out-of-network provider, payment for the uncovered charges shall usually be the liability of the subscriber. If an out-of-network medical specialist charges $100 for an office visit for which a PPO plan provides a $60 reimbursement, payment of the $40 balance is the patient's liability and the specialist may be free to *balance-bill* for the $40 difference. The PPO may have negotiated a $60 rate for an office visit to its in-network specialist, in which case the full cost of the office visit with the network provider is covered.

Service coverage may make further distinctions between in-network providers, often to encourage patterns of medical service utilization within the network itself. For example, a *point-of-service PPO* may provide more favourable reimbursement when the initial contact of the subscriber seeking health care service is with a general practice physician. Later contact with specialists shall be reimbursed favourably if the contact is the result of a referral issued by the general practitioner, who serves as a "gatekeeper". The point-of-service PPO may fully reimburse the cost of an office visit with an in-network general practitioner and pay 90 per cent of the cost of a subsequent office visit with an in-network specialist if the visit is ordered by the general practitioner. If the subscriber's initial office visit is with the specialist, the reimbursement may drop to 80 per cent for an in-network specialist and to 60 per cent for an out-of-network specialist. The rationale for the pattern of reimbursement is to encourage initial contact in-network general practitioner who may be regarded as less expensive than specialists and less likely to refer to additional expensive testing.

The trade-off between different types of service coverage often balances price against[20] the subscriber's freedom of choice of medical care providers and control over the delivery of health care services. Historically, plans providing the widest range of choices and fewest restrictions tend to be the most expensive. However, freedom to choose among providers of medical services is an option valued by many consumers of health care. Traditionally, medical expense insurance and Blue Cross/ Blue Shield plans have imposed few restrictions on the choice of providers as compared with HMO, PPO and EPO plans. In some states, however, Blue Cross/ Blue Shield organizations have formed HMO plans using smaller networks. These Blue Cross/Blue Shield HMOs are offered to the public alongside coverage imposing fewer restrictions on the subscriber's choice of medical care providers.

[20] R. Chen, & Wong, K.A., The Determinants of Financial Health of Asian Insurance Companies, 2004, *The Journal of Risk and Insurance*, 71(3), 2004, pp. 469-499

## VI. Contractual provisions affecting amount of recovery

Medical expense reimbursement insurance includes contractual provisions such as policy limits and deductibles, that closely resemble provisions carrying the same titles that are found in property and liability insurance contracts. Service contracts also have many of the same provisions, although they may seem inconsistent with the service benefit approach. When these provisions appear in service contracts, the motive for their application is the creation of financial incentives affecting the behaviour of consumers and providers of medical services in ways believed to reduce health care costs. For example, a health care policy may impose a $100 deductible for use of a hospital emergency room that shall not result in admission to the hospital. Hospital emergency rooms often are expensive to use, and the $100 deductible is likely to deter the use of the emergency room for conditions not requiring urgent treatment.

When more than one policy providing health care benefits applies to an occurrence of health care, a *coordination of benefits (COB)* provision can serve the same function as the "other insurance" clause found in the property and liability coverage. The COB provision prevents duplicate recovery for the same set of medical expenses or the same procedure. A COB provision is common in employer-sponsored health care coverage and often is invoked when a husband and wife both work for employers who provide health care coverage. The COB provision determines which of the two policies is primary. For the employees themselves, the employee insurance policy is primary and the other policy is secondary. Concerning the working couple's dependent children, the primary policy typically is the employee's coverage for the employee whose birthday falls earliest in the calendar year. The consolidation of health care financing across wide geographic regions stipulated within the proposal for universal coverage is likely to eliminate the need for COB provisions.

*Policy limit(s)* specify a maximum recovery for covered medical expenses during a period, which may be as long as the lifetime of the covered individual. If a lifetime limit appears, the policy also may include an annual restoration. For example, a policy may contain a $500,000 lifetime limit for covered expenses with a $10,000 annual restoration. If a heart bypass surgery for a covered individual results in the payment of a $65,000 benefit, the remaining limit is reduced to $435,000. The next year the limit would be increased to $445,000 if no claims are paid, or to only $440,000 if additional medical expense benefits of $5,000 are paid during that year.

Under the service contracts, the limit may be stated within the in-service units, such as 120 days in the hospital. This approach has been used in Blue Cross coverage and Medicare; its appearance in Medicare suggests that limits serve as a purpose that is likely to continue under universal coverage. Service contracts also may impose dollar limits rather than limits on service units. Instead of applying to

a period, a policy limit may apply on some other basis, such as to each episode of illness or injury. In this case, the coverage will contain contractual language defining what constitutes a "spell of illness or injury". Often, separate limits apply to categories of expense, such as mental health care, in which moral hazard problems are believed especially difficult to manage. For example, a policy with a $500,000 lifetime limit for medical expenses may further impose a $100,000 lifetime limit on in-hospital mental health care, with a further restriction of no more than 30 days confinement in a single year. Further, more restrictive limits may apply to benefits for mental care provided outside a hospital.

As in property insurance, the *deductible* is an amount subtracted from the covered expense to define the recovery. If the covered expense is less than the deductible amount, no benefit is paid. The deductible may apply to any one illness occurrence, any one insured person , to total expenses incurred in a year, or on some other basis. Often, health insurance coverage provided to members of the same family will impose a per-year deductible for each family member with a larger deductible applying to the family's total expenses during the year.[21] For example, a $100 per-year deductible may apply to each family member with a $300 per-year deductible applying to the entire family. The coverage is triggered when an individual's covered expenses exceed $100 in a year or when the family's covered expenses exceed $300 in a year. For example, if all five members of a family were to each incur $80 of covered expenses,5($80)-$300, or $100, would be subject to coverage.

The *participation percentage (or coinsurance)* is a proportionate sharing of medical expenses that exceed any deductible. An 80/20 sharing results in the insurer reimbursing 80 per cent of the amount by which the expense exceeds the deductible, with the insured responsible for the remaining 20 per cent. The insured's participation rate usually is between 10-50 per cent, with 20 per cent being common.

An *out-of-pocket limit or limit on out-of-pocket expenses* is common in policies using deductibles and participation percentages. [22]The limit on out-of-pocket expenses represents an upper limit on payments by the insured on account of the deductible and participation percentage. For example, a $1000 limit on out-of-pocket expenses under a policy with a $100 deductible and 20 per cent participation is reached when covered medical expenses reach $4600; $100+0.2($4600-$100) =$1000. Beyond this point, the insurance policy provides coverage for the full amount of any further covered medical expenses. Table 19.1 illustrates the combined effects of a $200 deductible, 20 per cent participation, and a $1000 limit on out-of-pocket expenses under a medical expenses insurance policy with a $100,000 policy limit.[23]

[21] Insurance Europe. A Blueprint for Pensions: Saving enough, saving well, saving wisely, Brussels: *Insurance Europe*, 2017

[22] Insurance Europe. Why Insurers Differ from Banks, Brussels*: Insurance Europe*, 2014

[23] Insurance Europe. European Insurance in Figures 2015 Data, Brussels: *Insurance Europe*, 2016

The limit on out-of-pocket expenses is reached at covered expenses of $4200, but the overall policy limit is encountered when covered expenses exceed $101,000.

A *co-payment* is a fee paid by an insured person in order to become entitled to a medical service. In health insurance, the term "co-payment" has been used in a generic sense to denote a cost-sharing agreement, such as a deductible or participation percentage, although the meaning of the term gradually evolved to mean a fee imposed before other coverage provisions may apply. For example, a health care policy may impose a $10 co-payment for a routine visit to a physicians in addition to a $100 deductible and a 20 per cent participation. Under such a policy, a $25 office visit leading to $175 of fees for laboratory work would result in $15 of the cost for the office visit and $175 of the laboratory fees, a total of $190 being subject to coverage. After the $100 deductible is applied, $90 remains eligible for reimbursement. The actual reimbursement is (0.8)($90), or $72. Without the co-payment, the reimbursement would have been $80; i.e., [(0.8)($100)].

Service contracts often impose co-payments. Co-payment levels often are set to create financial incentives shaping the behaviour of covered individuals or providers. For example, the co-payment level for the use of a hospital emergency room not followed by a hospital admission may be set at $50, while the co-payment applying to other urgent care facilities may be $10. The differential co-payment levels create an incentive to use urgent care facilities other than hospital emergency rooms when these other facilities are available. Other urgent care facilities tend to be less expensive than hospital emergency rooms.

A *fee schedule* is a set of limits applying to specific types of services or diagnoses. The fee schedule sets a limit on the *allowable charge* that will be considered in computing reimbursement for covered medical services, a feature that distinguishes the fee schedule from other types of policy limits. Charges beyond the fee schedule are not considered when establishing benefits. For example, if a specialist charges $100 for an office visit and the fee schedule has a $40 limit for an office visit with a specialist, only $40 is considered in computing the benefit. If the policy stipulates a $100 deductible, $60 of deductible shall remain after the visit to the specialists, even though the insured may have paid the full $100 price of the visit. The practice of billing the patient for the balance between actual charges and allowable charges is called *"balance billing"*.

For the coverages where the insurer has negotiated favourable rates with a network of medical providers, the fee schedule may be set at the level negotiated with the network. When a network of providers is not included, fee schedules may be based on survey data on charges of medical providers for categories of service such as daily room and board charges by hospitals.[24] The survey data rank charges

[24] A. Gepp, Wilson, J.H., Kumar, K., & Bhattacharya, S., A comparative analysis of decision trees vis-à-vis other computational data mining techniques in automotive insurance fraud detection, *Journal of data science*, 10(3), 2012, pp. 537-561

of providers, with the insuring organization choosing a cut-off point beyond which charges will not be considered. For example, an insurer may believe that the 80th percentile of charges in a community represents a limit on "reasonable" charges.

Historical patterns of charges by providers in a community may also affect the limits on allowable charges, resulting in *"usual, customary, and reasonable"* (UCR) charges. This method of creating limits can allow an incentive for health care providers to regularly increase nominal charges for their services, even while the providers, as members of a network, are willing to accept a smaller amount than their full charges. This discrepancy between nominal charges and the amount providers are willing to accept as compensation could disappear under a *single-payer* approach, a term applied to a system in which all financing of health benefits is channelled through the same organization, such as a government agency. A single-payer system could use more than one source of funds, such as having individuals be responsible for the first $250 of expense during a calendar year. When more than one source of funds is used, presumably the same charge would apply across all categories of consumers and payers, regardless of the ultimate source of funds. Because the same price would apply to all users, a single-payer approach could eliminate problems related to balance-billing.

A precedent for using a single-payer approach in universal coverage exists in the portion of the Federal Medicare program applying to physician's services.

The coverage of this portion of Medicare prohibits balance-billing for providers who agree to accept the assignment of Medicare benefits. In many cases, Medicare completely disallows charges for services it deems unnecessary, leaving the provider who accepts assignment no recourse. Because the methods are chosen to regulate fees and charges that directly affect the income of medical care providers, this aspect of any proposed system of universal coverage is likely to be controversial.

The foregoing limitations share a common reliance on a fee-for-service method for determining the reimbursement. The *diagnosis-related groups (DRG)* system of reimbursement was adopted in the mid-1980s in place of the fee-for-service method under the portion of the Medicare applying hospital reimbursement. The DRG system also has received attention of private care health insurers. The DRG system, under which the payment to the hospital is based on a complex system for classifying medical diagnoses, was adopted in the belief that the fee-for-service system was partly responsible for rising hospital costs. Under a fee-for-service system, the hospital was reimbursed for each medical service, so the system offered no financial incentive to control the use of medical services. Under a DRG system, however, no additional payment is received when additional services are provided, but the payment is based on the diagnosis instead.[25]

[25] Havenlife, *You Have Life Insurance Questions, We Have Life Insurance Answers*, 2017

For example, a hospital would receive the same reimbursement for two patients with the identical diagnoses, even though one patient is confined for 10 days while the other is confined for only 5 days. Generally speaking, a provider for medical services under a DRG system has no incentive to encourage the consumption of medical services whose economic value is doubtful. By placing the financial burdens of additional services on the provider, the DRG system was designed to encourage providers to undergo only those medical services that are essential for the treatment of a medical condition.[26]

In 1992, Medicare began reimbursing physicians using a *resource-based relative value scale (RBRVS)*, which assigns a numerical value to the effort of the physicians in providing a medical service, and to the expenses of maintaining the medical practice. The reimbursement is determined by applying the numerical technique rather than that set by physicians and insurers in the market. Compared to the prevailing levels of fees and charges, RBRVS is designed to increase reimbursement of primary care physicians relative to specialists.

## VII. Conclusions

In addition to financial incentives designed to influence the behavior of providers and consumers of medical services, coverage may also impose direct controls on the utilization of healthcare services[27]. For instance, a prior notification requirement may mandate that a surgeon planning to perform an elective surgical procedure must first submit a plan to the insurer and await approval before proceeding with the surgery. Health benefits also employ case management to manage the costs of expensive medical procedures by involving the plan's medical director (who may be a physician) in day-to-day decisions regarding the administration of medical procedures to an insured individual whose healthcare expenses have surpassed a certain threshold. A second-opinion requirement has been utilized in medical benefit programs to ensure that a second surgeon agrees that surgery is necessary for a condition not requiring urgent care.

In the absence of coverage for healthcare services, market forces and limitations on individual resources regulate prices and consumption of healthcare services. However, coverage for these services, whether purchased by employers or provided by governments, tends to reduce these natural constraints. Consequently, other methods of rationing, such as financial incentives or direct controls, may be implemented. The typical coverage for healthcare services is intricate, and this complexity is likely to persist even after the implementation of universal coverage,

[26] E. Kay, IFRS 17 (IFRS 4 Phase II) Insurance Contracts, Dublin: Milliman, 2016

[27] P. Kaye, Risk measurement in Insurance: *A Guide to Risk Measurement*, Capital Allocation and Related Decision Support Issues, CAS Discussion Paper Program, Arlington: Casualty Actuarial Society (CAS), 2005.

although coverage provisions may become more standardized across different plans. The provisions found in health benefits are devised in response to inherent problems associated with coverage for healthcare services. Unless universal coverage resolves these issues, mechanisms to control them will likely continue in some form.

## Literature


- Aase, K., *Life insurance and pension contracts II: The life cycle model with recursive utility.* ASTIN Bulletin, 46, 2016, pp. 71–102
- Banyar, J., *Life insurance. Budapest*: Corvinus University of Budapest + Central Administration of National Pension Insurance, 2003.
- Batty, M., & Kroll, A., *Automated Life Underwriting*, 2009, *https://www.soa.org/Files/Research/Projects/research-life-auto-under writing.pdf.*
- Chen, R., & Wong, K.A., The Determinants of Financial Health of Asian Insurance Companies, 2004, *The Journal of Risk and Insurance*, 71(3), 2004, pp. 469-499.
- Christmann, A., *An approach to model complex high–dimensional insurance data*, Allgemeines Statistisches Archiv, 88(4), 2004, pp. 375-396.
- Coe, N., & Belbase, A., *How do people decide on life insurance and long-term disability insurance coverage*? Working Paper, No. 2015-4, Boston: Center for Retirement Research at Boston College, 2015.
- Decision on the Content and Layout of Financial Statement Forms for Insurance Undertakings. RS Official Gazette, No. 135/2014, 141/2014 and 102/2015
- Dickinson, G., *Encouraging a dynamic life insurance industry: economic benefits and policy issues*, 2012, *http://www.oecd.org/finance/insurance/1857811.pdf.*
- Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), *Official Journal of the European Communities*, 2009/138/EC.
- Doff, R., The Final Solvency II Framework: Will It Be Effective? *The Geneva Papers on Risk and Insurance* - Issues and Practice, 41(4),2016, pp. 587-607
- Eccles, R.G., & Vollbracht, M., Media Reputation of the Insurance Industry: An Urgent Call for Strategic Communications Management, *The Geneva Papers*, 31, 2006, pp. 395-408
- EIOPA Financial Stability Report. December 2016, Frankfurt: *European Insurance and Occupational Pensions Authority* (EIOPA).
- FERMA. European Risk and Insurance Report 2016. Paris: *Federation of Risk Management Insurance Associations* (FERMA).

- Gepp, A., Wilson, J.H., Kumar, K., & Bhattacharya, S., A comparative analysis of decision trees vis-à-vis other computational data mining techniques in automotive insurance fraud detection, *Journal of data science*, 10(3), 2012, pp. 537-561
- Gründl, H., Dong, M.I., Gal, J., The evolution of insurer portfolio investment strategies for long-term investing. OECD Journal: *Financial Market Trends*, 2016(1), pp. 1-57
- Gursez, O., Marine insurance law. London: Routledge, 2015.
- Havenlife, *You Have Life Insurance Questions, We Have Life Insurance Answers*, 2017, *https://havenlife.com,* pregledano 21.12.2023
- Insurance Europe, Why Insurers Differ from Banks. Brussels*: Insurance Europe*, 2014
- Insurance Europe, European Insurance in Figures 2015 Data, Brussels: *Insurance Europe*, 2016
- Insurance Europe, A Blueprint for Pensions: Saving enough, saving well, saving wisely. Brussels: *Insurance Europe*, 2017
- Kay, E., IFRS 17 (IFRS 4 Phase II) Insurance Contracts, Dublin: Milliman, 2016
- Kaye, P., Risk measurement in Insurance: *A Guide to Risk Measurement*, Capital Allocation and Related Decision Support Issues, CAS Discussion Paper Program, Arlington: Casualty Actuarial Society (CAS), 2005
- Monks, K., & Risk, C. (2016), Automating Life Insurance Underwriting – A Closer Look, *https://captricity.com/blog/automating-life-insuranceunderwriting-a-closer-look,* 2016.
- Yoder, J., Rao, A., Bajowala, M., & Sunder, A. (2012), Life insurance 2020: Competing for a future, PricewaterhouseCoopers (PWC), 2020
- Vojinović, Ž., Žarković, N., Osiguranje, Ekonomski fakultet u Subotici, 2016, pp. 98-100
- Žarković, N., Mere sprečavanja u životnim osiguranjima - Živeti zdravije, *Svet osiguranja*, 2017
- *http://www.euro.who.int;* pregledano 18.12.2023.
- *http://www.focus-fen.net/;* pregledano 14.12.2023.
- *http://en.wikipedia.org/wiki/Health_insurance;* pregledano 06.01.2024.


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