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Physician Behavior under Prospective Payment Schemes

Evidence from artefactual field and lab experiments

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Abstract

Recent experimental studies analyze the behavior of physicians towards patients and find that physicians care for their own profit as well as patient benefit. In this paper, we extend the experimental analysis of the physician decision problem by adding a third party representing the health insurance which finances medical service provision. Our results show that physicians take into account the payoffs of the third party, which can lead to underprovision of medical services. We conduct a laboratory experiment in neutral as well as medical framing using students and medical doctors as subjects. Subjects in the medically framed experiments behave weakly more patient orientated in contrast to neutral framing. A sample of medical doctors exhibits comparable behavior to students with medical framing.

Keywords: health economic experiment; framing; physician behavior; prospective payment schemes

JEL: C91; C93; I11; I18

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1 Introduction

In seminal theory works on physician behavior of Arrow (1963) and later McGuire (2000), physicians are modeled to face a trade off between personal profit and patient health. Following these early theoretical approaches, this trade off has since been analyzed in empirical research (see Chandra et al. (2012) for an introduction). Recent studies show that physicians perform more invasive treatments if this increases reimbursement (Coey, 2015) and increase consultation frequency not to improve treatment quality but to increase reimbursement (Brekke et al., 2017). There is also a growing literature on experiments in health economics which shows that physicians in the lab care for patients - but care more for themselves (Hennig-Schmidt et al., 2011; Godager and Wiesen, 2013; Brosig-Koch et al., 2013; Keser et al., 2014; Green, 2014).

In this paper, we contribute to the growing experimental literature on physician behavior in three ways. First, we extend the physician decision problem analyzed in recent works by Hennig-Schmidt et al. (2011) and Brosig-Koch et al. (2017) by adding a third party which represents a health insurance that finances medical service provision. Second, we conduct our laboratory experiment in neutral as well as medical framing to identify behavioral effects of contextual framing. Third, our subject pool consists of students, as well as medical doctors, which allows us to analyze whether professional experience in the relevant area influences decisions in the lab.

The division between receivers of services (patients) and those who pay for it (usually a health insurance) is an important feature of many health care systems. A third party that finances medical services does not only influence patients' demand for services (most notably through moral hazard) but also the quality and quantity of medical services physicians supply. Chandra and Skinner (2012) assume in their model of physician behavior that medical services - although not payed for by the patient - are always subject to constraints, for example to a lack of resources or ethical norms against spending too many resources. A qualitative study by Hassell et al. (2003), a survey by Tilburt et al. (2013) and a discrete choice experiment by Pedersen et al. (2014), all indicate that physicians take into account the costliness of their services and the scarcity of available resources for treating patients. We analyze physician behavior when a health insurance finances medical service provision. This extends the seminal works of Hennig-Schmidt et al. (2011) and Brosig-Koch et al. (2017) who focus on the bilateral relationship between physicians and patients. Such a change can influence individual decisions as the number of affected agents increases (Andreoni, 2007; Schumacher et al., 2017). We model the financing of medical services as a prospective payment scheme (PPS) where the budget physicians can spend is determined by the patient's diagnosis. This is not only one of the most common ways to organize hospital reimbursement, physician behavior

under PPS has also been subject to many economic studies. The evidence is accruing that physicians over-report patient severity under PPS in order to increase reimbursement (Dafny, 2005; Silverman and Skinner, 2004; Jürges and Köberlein, 2015; Fang and Gong, 2017; Reif et al., 2017). There is however mixed evidence on whether the extra reimbursement is used to improve care, enrich the physician, or both. We contribute to the literature by modeling the patient-physician-insurance relationship with a PPS to analyze physician behavior in such a more complex decision problem.

Crucial decisions for the design of economic experiments are the choices of subject pool and framing. In studies that analyze physician behavior, the most common choice is a student subject pool with medical framing.[1] Abbink and Hennig-Schmidt (2006) and Gneezy et al. (2011) emphasize that contextual framing has advantages as well as disadvantages and therefore the framing choice depends on the underlying question. In particular for studies on physician behavior, framing might induce experimental subjects to behave as they *expect* physicians to behave (Ahlert et al., 2012). However, neutral framings might induce varying contexts in the subjects' mind which can affect decisions but are unobservable to the researcher. Indeed, Kesternich et al. (2015) show in an experiment with medical students that changing perceived context by inducing professional norms influences how players distribute stakes between group members. When it comes to choosing a subject pool, Harrison and List (2004) suggest that not only students but also professionals should take part in experimental studies. The results from Brosig-Koch et al. (2015) show that in the experimental analysis of physician behavior the decisions of business and economics students are similar to those of medical doctors. We contribute to both discussions by conducting our experiment with a student sample in neutral framing and adding a student sample with medical framing as well as a sample of physicians with medical framing.

We find that physicians trade off between their own payment and patient utilities as well as payoff of the third party. Additionally, we show that concern for patients is higher when the experiment is framed in a medical context. Our results also suggest that medical doctors behave similar to students in laboratory experiments.

The remainder of the paper is structured as follows. In the next section (2) we introduce our experimental design. The results from our experiments are presented in section (3) and in the final part (4) we conclude.

[1] See for example Lagarde and Blaauw (2017); Brosig-Koch et al. (2013, 2015, 2017); Keser et al. (2014); Hennig-Schmidt et al. (2011); Kairies and Krieger (2013)

2 Experimental Design

We conduct artefactual field and lab experiments to analyze physician behavior. Physicians observe the medical needs of a Patient, report the severity of her illness to a Health Insurance and use the budget from the Health Insurance to provide Medical Services to the Patient. The third party that finances the Medical Service provision and the related reporting stage are the two main design extensions to the seminal works of Hennig-Schmidt et al. (2011) and Brosig-Koch et al. (2017), where Physicians observe Patient severity and then directly provide Medical Services.

2.1 Framing and subject pool

In order to identify behavioral effects of framing, we conduct our experiment in a neutral setting as well as in a setting with medical context. Subjects in our experiment take on the roles of either Patients, Physicians or Health Insurance. Naming of player types varies between neutral- and medical framing. We call them "Participant A, Participant B and Participant C" in the neutral framing, whereas in the medical framing we call them "Patient, Physician and Health Insurance" respectively. The framing does not influence the underlying mechanism of the experiment. Hence, for ease of readability, we will use the medical terms to describe the experimental design. Subjects in our experiment were a sample of students as well as a sample of medical doctors. This allows us to analyze whether professional experience in the relevant area influences the decisions in the lab.

2.2 Group Composition and Roles

At the beginning of each experimental session, we divide subjects randomly and anonymously into groups of three. The group composition remains unchanged throughout the whole experiment. Subjects do not know the other two group members but they know that the composition of the groups will not change during the experiment. There is no interaction across groups, hence, the outcomes of the members of one group only depend on the decisions of the members within this group.

Only the Physician makes decisions that can influence her own payoff and determines the payoff of the other participants within her group. Patient and Health Insurance will not make any decisions in the experiment.

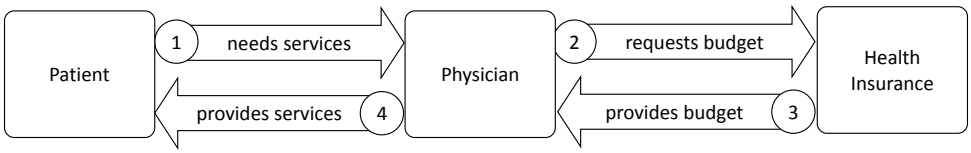
First, every participant makes decisions, as if she was in the role of the Physician. After all participants made their decisions, we announce the random assignment of the participants to the roles of Patient, Physician and Health Insurance. Only the decisions of the group member who is assigned to the role of the Physician are payoff relevant for

the group members. The decisions of the group members who are assigned to the roles of Patient or Health Insurance are irrelevant for the group members.[2]

2.3 Relationship between the Group Members

Physicians have to provide Medical Services to the Patients. The provision of Medical Services is associated with costs and in order to cover costs, the Physician has to request a budget from the Health Insurance. Physicians request a budget by reporting information about the Patient to the Health Insurance and the reported information determines the size of the budget. Subsequently, the Physician decides on how many Medical Services she wants to provide to the Patient. Figure 1 illustrates the relationship between the group members.

Figure 1: Relationship between the group members



2.4 Roles and Payoffs

We will now, step by step, introduce the three roles (Patient, Physician, Health Insurance) in detail.

Patient

Every Patient's payoff can either be 0 or 90 Taler (our experimental currency). The Physician's decision on the number of Medical Services provided determines the probability to earn 90 Taler. We implemented a probabilistic relationship between Patient payoff and Physician's decision, since we consider it to be more realistic than a deterministic relationship. In reality, the health outcome of a Patient is influenced by the Physician's decision to a great extent. However, other factors can also have an influence (e.g. the predisposition of a Patient or the effectiveness of prescribed drugs). Therefore sickness of the Patient after a medical intervention can not unambiguously be traced back to misbehavior of the Physician. Huck et al. (2016) use a similar mechanism and Persson

[2]Even though the decisions of the participants who are assigned to the roles of Patient or Health Insurance are irrelevant for the final payoff of their respective group members, we use their decisions as Physicians for our analysis of Physician behavior.

(2016) shows that Physicians' decisions are similar in a probabilistic and in a deterministic setting.

The severity of a patient's illness can influence physician behavior (Reif et al., 2017; Brosig-Koch et al., 2013). In order to allow for such heterogeneity in our experiment, we introduce three types of Patients - low type (L), medium type (M) and high type (H), which represent different severities of patient's illness.

The three types of Patients need different numbers of Medical Services in order to maximize their probability of receiving the payoff of 90 Taler. The highest probability of receiving a payoff is 95%. Two units of Medical Services are optimal for L type Patients, whereas M type Patients need four and H type Patients six units. Providing too many Medical Services is equally harmful for the Patient as providing too few Medical Services. The probability to earn 90 Taler is reduced to 65%/35%/5%, when the number of Medical Services provided is one/two/three or more unit(s) above or below the optimum.

Table 1 shows the Patient type specific connection between number of provided Medical Services and the probability to earn 90 Taler.

Table 1: Patient Payoff Probabilities in %

		Number of Services Provided					
		1	2	3	4	5	6
Patient Type	L	65	95	65	35	5	5
	M	5	35	65	95	65	35
	H	5	5	5	35	65	95

Notes: Patient's Probability to earn 90 Taler for three types of Patients (low type (L), medium type (M) and high type (H)).

At the end of the experiment, the Patient learns about her final payoff. She does not learn about her type or the number of Medical Services provided by the Physician. We consider this design choice to be a realistic representation of actual doctor-patient relationships where asymmetric information is present. The Patient does not make any decisions in the experiment.

Physician

Every Physician faces the task to provide Medical Services to each Patient type L, M and H consecutively.[3] The different Patient types are independent – the provision of services to one Patient has no effect on the budget or Medical Service provision of another Patient. The potential number of Medical Services provided is an integer between one and six and is associated with costs. Every unit of Medical Services provided costs 15 Taler. In Table 2, we give an overview on the potential number of Medical Services and the associated costs:

Table 2: Costs of Provided Services

	Number of Services Provided					
	1	2	3	4	5	6
Costs	15	30	45	60	75	90

In order to cover costs, the Physician has to request a budget, by reporting a Patient type to the Health Insurance. The Physician can report any type of Patient (L, M or H) independently of the true type of the Patient. Therefore, it is possible to report false information – which we call misreporting. Two kinds of misreporting are possible – overreporting and underreporting. Overreporting (underreporting) refers to the case where the Physician reports a higher (lower) than the true Patient type to the Health Insurance. An example of overreporting would be if the true Patient type were L whereas the reported type is M. We summarize the possible reporting behavior of the Physician in Table 3:

Table 3: Reporting Options of the Physician

		Reported Patient Type		
		L	M	H
True Patient Type	L	Truthful	Overreporting	Overreporting
	M	Underreporting	Truthful	Overreporting
	H	Underreporting	Underreporting	Truthful

The reported Patient type determines the assignment to a budget group and therefore the size of the budget, comparable to diagnosis related groups in PPS.

[3] In each treatment one third of the subjects faced the sequence L-H-M, M-L-H and H,M,L respectively. To ensure comparability across treatments, we kept this sequence pattern constant for all subjects in all experimental sessions.

Physician payment can either be determined by a *fee for service* payment system (FFS) where the number of Medical Services provided determine the payoff of the Physician or a *capitation* payment system (CAP), where the payment to the Physician is independent of the number of Medical Services provided. Under FFS, the Physician receives 15 Taler per unit of Medical Service provided. Under CAP she receives 50 Taler in any situation. We present an overview of the two Physician payment systems in Table 4. FFS represents the case where the Physician acts on her own bill while in CAP an implicit fourth agent is assumed (for example a hospital) that pays the Physician independent of her service provision.

Table 4: Physician Payment by Service Provision

		Number of Services Provided					
		1	2	3	4	5	6
Payment System	Fee For Service	15	30	45	60	75	90
	Capitation	50	50	50	50	50	50

Health Insurance

The Health Insurance is endowed with 130 Taler for each Patient in all experimental conditions. Dependent on the Patient type reported by the Physician, the budget for the Physician is withdrawn from the endowment of the Health Insurance. We implement a budget scheme with two groups where type L and M Patients are assigned to budget group I (45 Taler) which is sufficient to cover costs for the average Patient of type L or M. This design feature reflects a crucial aspect of many PPS, namely that costs for an average Patient are reimbursed. If a H type Patient is reported, budget group II (90 Taler) is provided, which covers the cost for optimal Medical Service provision. In case the budget is not fully spent (Physician reports L/M/H and provides less than 2/4/6 medical services), the unused budget benefits none of the three group members. This is comparable to actual PPS, where ”unused” budget benefits the hospital in general, but not the Physician in charge or the Health Insurance.

Table 5 summarizes the information of the budget groups and available budgets dependent on the reported Patient type.

Table 5: Assignment of Budget Groups and Costs for Optimal Number of Services

(Reported) Type	L	M	H
Costs for optimal service	30	60	90
Budget Group	I		II
Available Budget	45		90

2.5 Physician Decision Problem and Conjectures

In total, we implemented six treatments with different combinations of our experimental variations. Table 6 shows an overview of our treatments including their respective abbreviation.

Table 6: Treatment Overview

Treatment	Payment System	Framing	Subjects
CNS	**C**apitation	**N**eutral	**S**tudents
CMS	**C**apitation	**M**edical	**S**tudents
CMD	**C**apitation	**M**edical	**D**octors
FNS	**F**ee For Service	**N**eutral	**S**tudents
FMS	**F**ee For Service	**M**edical	**S**tudents
FMD	**F**ee For Service	**M**edical	**D**octors

We implemented three forms of experimental variation. First, we vary the Physician payment system, which is either dependent (fee for service) or independent (capitation) of the provision behavior of the Physician. This is our baseline variation which is closely related to the previous literature. Second, we use two different types of framing: one introducing a medical context and a neutral one without context. Third, we vary the subject pool, where participants of the experiment are either medical doctors or students.

We now derive conjectures about the behavior of the Physician under our three experimental variations. In all treatments the payoffs for all three group members are solely determined by the Physician. Reported Patient type is the only factor that affects the payoff for the Health Insurance, since the assigned budget is subtracted from its initial endowment. The Payoff of the Health Insurance is therefore independent of subsequent Medical Service provision. Although only the provision of Medical Services affects Physicians's and Patient's payoff, the preceding reporting decision plays an indirect role for their payoffs by the possible restriction to the number of affordable

Medical Services.

Ultimately, the decisions of the Physician depend on how she values the well-being of all three group members. Generally, if she attaches a high value to the Payoff of the Health Insurance, she reports a low Patient type. If she however attaches a high value to the Patient payoff, she reports a type such that the provided budget is sufficient for the optimal number of Medical Services. In the capitation system, the Physician only faces the possible trade off between Health Insurance and Patient payoff. In contrast, in the fee for service system she also influences her own payoff. If she attaches a high value to her own payoff she will report a high Patient type and subsequently provide a high number of Medical Services. Since our Physician payment system induces different personal incentives we expect participants to behave differently across fee for service and capitation systems. Following the theoretical predictions in Ellis and McGuire (1986) and findings from previous health economic experiments (Hennig-Schmidt et al., 2011; Green, 2014), we expect more overreporting and overprovision of Medical Services in the fee for service systems. We do however not expect the different payment systems to affect the Physician's preferences towards either Health Insurance or Patient payoff.[4]

> **Conjecture 1:** *A fee for service Physician payment system leads to more overreporting of Patient type and overprovision of Medical Services compared to a capitation payment system.*

Our second experimental variation affects the presentation of our experimental setting, which is framed either in a neutral or a medical way. In the neutral framing, subjects either face a trade off between "Participant A" and "Participant C" (capitation) or their own payoff as well as the payoff of "Participant A" and "Participant C" (fee for service). In the medical framing, subjects make decisions which can affect themselves, the Patient and the Health Insurance. Findings of an earlier health economic experiment suggest that economics students "[...] allocate in less own-payoff maximizing ways [...]" when they are in a medically framed setting (Ahlert et al., 2012, p. 6). We therefore expect the decision of the Physician to be more Patient oriented in the capitation case by introducing a medical framing compared to the neutral framing, as this is more in line with professional norms of Physicians whose main purpose is to restore the health of her Patients. In line with this, in the fee for service systems we expect that Physicians will behave less selfish, which leads to lower harm for the Patient compared to neutrally framed fee for service systems.

[4]Differences in the reporting and provision behavior in fee for service in contrast to capitation systems that favor either Health Insurance or Patient payoff can be explained by the presence or absence of own pecuniary incentives of the Physician.

Conjecture 2: *The medical framing induces more Patient oriented behavior, while the neutral framing leads to more selfish, own-payoff maximizing behavior.*

Our third experimental variation is the subject pool, which consists either of students or medical doctors. With this variation we can test whether the norms induced by the medical framing lead to behavioral differences between students without medical background and trained medical doctors. Brosig-Koch et al. (2015) show that medical doctors behave in a similar way as students but are on average more concerned with Patient payoff. We do not expect that adding a third party to the decision problem (our main design extension compared to Brosig-Koch et al. (2015)) changes this pattern.

Conjecture 3: *Medical Doctors behave more Patient-oriented compared to business and economics students.*

2.6 Experimental Protocol

Our computerized experiment was conducted at the LERN - Laboratory for Experimental Research in Nuremberg. The experiment was programmed and conducted using z-Tree (Fischbacher, 2007) and ORSEE (Greiner, 2015) was used to recruit the student subjects. In total, 105 students and 21 medical doctors participated in our experiment.[5] Our student sample consists mainly of undergraduates in economics and business administration. The medical doctors were recruited at an advanced education program (MHBA) that took place in the same building where the LERN is located. We implemented a between subjects design - each subject participated in one treatment only. The experimental procedure was identical for all sessions. Upon arrival at the laboratory, subjects were randomly allocated to partitioned computer terminals and given hard-copy instructions.[6] After having read the instructions, subjects had to answer a set of control questions. The experiment did not begin until all subjects answered all questions correctly. When subjects revealed a lack of understanding, the experimenters explained the respective problem to them personally. Subjects could take as long as they needed to make decisions, to view result screens, and to complete the control questions. All subjects made their decisions in full anonymity.

Sessions lasted approximately one hour. Earnings were expressed in Taler which

[5] CNS, FNS - 27 students; CMS - 24 students; FMS - 27 students; CMD - 12 medical doctors; FMD - 9 medical doctors.

[6] The translated instructions can be found in the appendix B1 and B2. The original German instructions are available upon request.

were exchanged for cash at the end of the session for 1 EUR per 10 Taler for the student subjects and 4 EUR per 10 Taler for the medical doctor subjects.[7] Student (medical doctor) subjects earned an average of 10,26 (44,57) EUR, including the show-up fee of 4 (16) EUR.

3 Results

In this section we present the experimental results. We first analyze the general reporting and provision behavior. Then, we compare the reporting and provision behavior across Physician payment systems, framings and subject pools. We continue with a regression analysis in order to compare conditional means of the payoffs for the group members. As a last step we investigate how the provision of medical services conditional on reporting behavior differed between treatments.

In order to be able to numerically compare behavior across experimental conditions, we coded Patient type low as one, medium as two and high as three.[8]

3.1 Average Reporting and Provision behavior

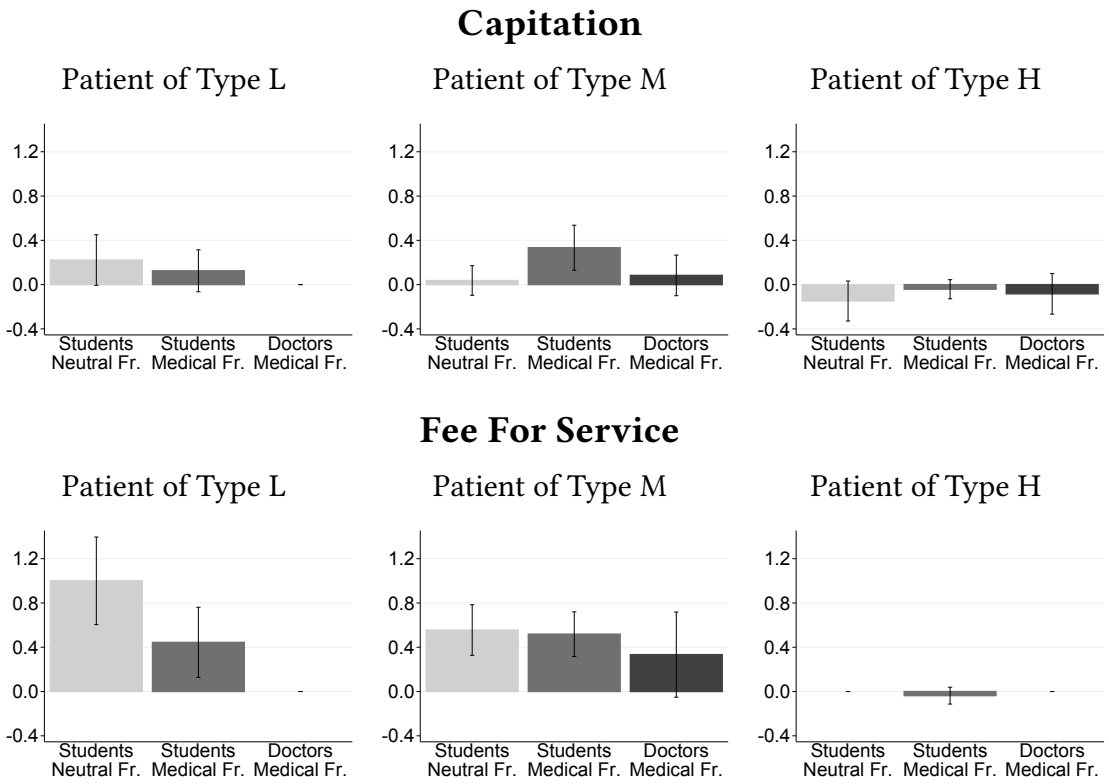
Figure 2 shows the average deviation from the true type for each Patient type across the experimental conditions. The first row shows misreporting for the CAP treatments, misreporting in the FFS treatments can be found in the second row. In each row the three columns indicate player type L, M and H. In each of the six sub figures, average misreporting is indicated by the bars for students in the neutral framing, students in the medical framing and doctors in the medical framing. Each bar also includes 95% confidence intervals. On average we find that, in our sample of students, Patient type is significantly overreported for type L. For type L and M patients, misreporting is higher in the FFS treatments compared to the CAP treatments. There is no large difference between CAP and FFS for type H patients. No clear pattern is visible with respect to framing or sample.[9]

[7] These different exchange rates are comparable to the implementation of Brosig-Koch et al. (2015). Differences in exchange rates are implemented to account for different opportunity costs of different subject pools.

[8] We interpret Patient type with categories low, medium and high as an interval variable with values one, two and three as the interval of optimal medical services between the types is the same.

[9] Tables A.1, A.2 and A.3 [in the Appendix] contain average misreporting (left tables) and the information on whether misreporting-differences between experimental conditions are statistically significant (right tables) for type L, M and H Patients respectively.

Figure 2: Average Misreporting across Experimental Conditions

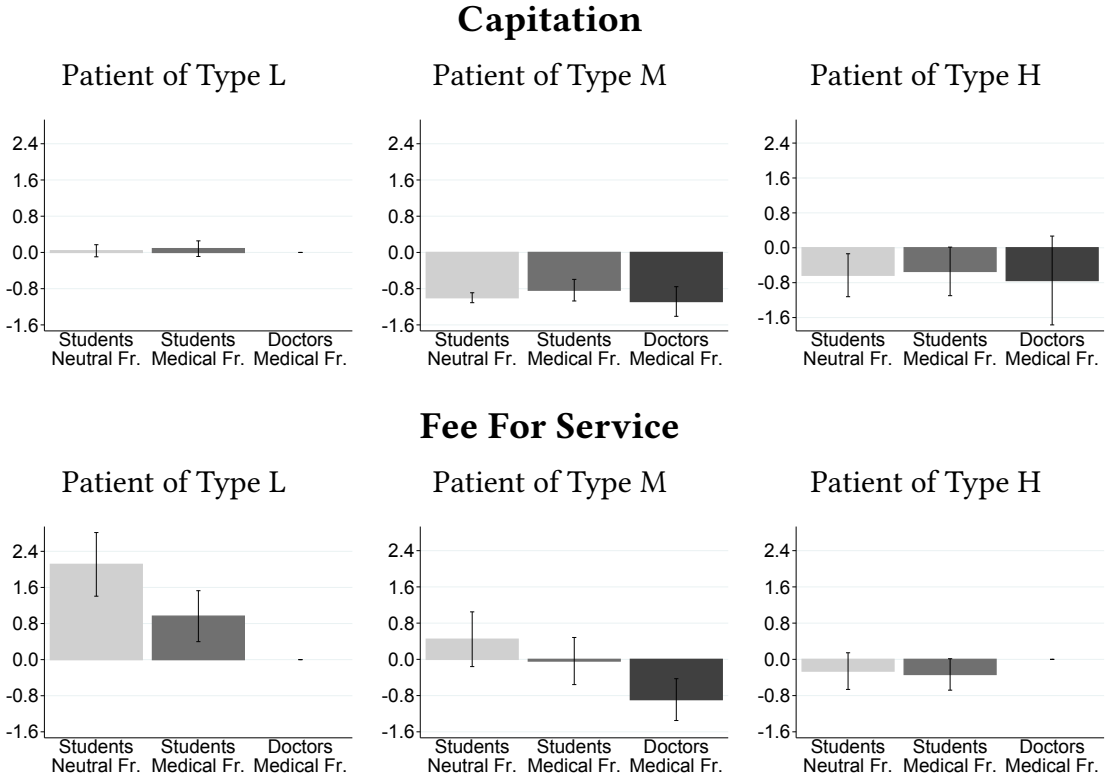


Notes: This figure illustrates average misreporting and 95% confidence intervals across experimental conditions. Misreporting refers to the case where the reported Patient type differs from the true Patient type. Positive misreporting corresponds to overreporting, while negative misreporting corresponds to underreporting.

Figure 3 shows the average deviation from optimal Medical Service provision for each Patient type across the experimental treatments. Here, negative values indicate average underprovision while positive values indicate average overprovision of Medical Services. As in Figure 2, the first row shows maltreatment for the CAP and the second row for FFS. Columns indicate player types and within each sub figure each bar stands for students in the neutral framing, students in the medical framing and doctors in the medical framing respectively. In the CAP treatments, medical service provision is on average optimal for type L patients and there is underprovision for M and H patients, independent of subject pool and framing. For L patients in the FFS treatments, there is most overprovision for students in the neutral framing and some overprovision for students in the medical framing. If we look at type M patients, there is some overprovision for students in the neutral framing, on average optimal provision for students in the medical framing and underprovison for the doctor sample. H type patients receive on average fewer than optimal medical services for both student samples and the optimal number of services in the doctor sample.[10]

[10]Tables A.4, A.5 and A.6 [in the Appendix] contain average maltreatment (left tables) and the information on whether the maltreatment-differences between treatments are statistically significant (right tables) for type L, M and H Patients respectively.

Figure 3: Average Maltreatment across Experimental Conditions



Notes: This figure illustrates average maltreatment and 95% confidence intervals across experimental conditions. The values are standardized such that optimal Medical Service provision is 0, positive (negative) values indicate overprovision (underprovision).

In the following subsections we present the results in more detail by comparing average reporting and provision behavior across experimental conditions. For hypothesis testing we use Mann-Whitney U tests. First, we focus on the difference between the Physician payment systems (3.2), second on the difference between neutral and medical framing (3.3) and third on the difference between student and medical doctor subject pool (3.4).

3.2 Differences between Fee For Service and Capitation

Table 7 compares behavior in fee for service and capitation systems. For type L patients. there are clear differences between Physician payment systems: student subjects in the fee for service systems report significantly higher types than students in the capitation systems (CNS 0.22 vs. FNS 1 & CMS 0.13 vs. FMS 0.44). None of our medical doctor subjects mispreports here.

Patient type is also overreported for type M Patients. Here however, the difference between fee for service and capitation is only significantly different from zero in the neutrally framed experiments (CNS 0.04 vs. FNS 0.56). In the other two groups, Physician payment system does not induce significantly different reporting behavior (CMS

0.33 vs. FMS 0.52 & CMD 0.08 vs. FMD 0.33).[11]

There is barely any deviation from true reporting for type H Patients with the exemption of students in the neutral framing. They do on average significantly underreport Patient type (CNS -0.15 vs. FNS 0). Patient and Physician payoff are aligned in the fee for service setting for type H Patients. However, this is not the case in the capitation setting, where participants face a trade off between Patient and Health Insurance payoff, but not her own. A reason for the observed significant underreporting of Patient type H in the neutrally framed capitation system can be explained by Physicians who value the marginal Health Insurance payoff more than higher expected well-being of high type Patients.

Table 7: Comparison between Fee For Service and Capitation

		Avg. Misreporting			Avg. Maltreatment		
		Payment System			Payment System		
Patient	Fram.-Subj.	FFS	CAP	U-Test	FFS	CAP	U-Test
L	Neutr.-Stud.	**1**	**0.22**	***	**2.11**	0.04	***
	Med.-Stud.	**0.44**	**0.13**	*	**0.96**	0.08	***
	Med.-Doc.	0	0		0	0	
M	Neutr.-Stud.	**0.56**	0.04	***	**0.44**	**-1**	***
	Med.-Stud.	**0.52**	**0.33**		-0.04	**-0.83**	**
	Med.-Doc.	**0.33**	0.08		**-0.89**	**-1.08**	
H	Neutr.-Stud.	0	**-0.15**	*	**-0.26**	**-0.63**	**
	Med.-Stud.	-0.04	-0.04		**-0.33**	**-0.54**	
	Med.-Doc.	0	-0.08		0	**-0.75**	

Notes: Columns 3-5: Average misreporting across experimental conditions. Zero misreporting refers to the case where the true type equals the reported type. Columns 6-8: Average provision of medical services across experimental conditions. Positive values indicate an overprovision of medical services. Negative values indicate underprovision of medical services. Bold formated values are significantly different from zero (one-sided t-tests, $p<0.1$). Columns 5 & 8: U-Test: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of misreporting/provided medical services between experimental conditions. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Differences between the Physician payment systems are more pronounced in the provision of Medical Services. While there is barely any deviation from optimal Medical Service provision for type L Patients in the capitation systems, there is significant overprovision in the fee for service systems in the student samples (CNS 0.04 vs. FNS

[11]Since for type M patients, both under- und overreporting are possible, the average misreporting might deviate from the average absolut misreporting. However A.1 and A.8 show, that the absolut average misreporting is similar to the average misreporting.

2.11 & CMS 0.08 vs. FMS 0.96). Participants from our sample of medical doctors do always provide the optimal number of Medical Services for type L Patients.

On average medical service provision is lower than optimal for type M Patients in all experimental conditions apart from the neutrally framed student sample with fee for service. It is significantly lower for both student samples when the capitation Physician payment system was implemented (CNS -1 vs. FNS 0.44 & CMS -0.83 vs. FMS -0.04).[12]

The pattern is similar for our sample of medical doctors although the difference is not significantly different from zero (CMD -1.08 vs. FMD -0.89). When participants reported truthfully, the available budget is not sufficient to provide the optimal number of services for type M Patients. Since many participants reported the true type of type M Patients, it is not surprising to observe high levels of underprovision for type M Patients in the capitation setting.

For type H Patients in the student samples we observe significant underprovision of services in both payment systems. The underprovision is more pronounced in the capitation system, although the differences are only significantly different from zero in the comparison of the neutrally framed students (CNS -0.63 vs. FNS -0.26) while the difference is small and insignificant for medically framed students (CMS -0.54 vs. FMS -0.33). Statistical testing is not possible for the medical doctor sample where all H type Patients were provided the optimal number of Medical Services in the fee for service system (CMD -0.75 vs. FMD 0).

We find significant behavioral differences between capitation and fee for service systems, independent of Patient type and framing. Subjects in fee for service systems are more likely to overreport and overprovide for low and medium type Patients, while they are less likely to underreport and underprovide for high type Patients. This is in line with the findings of Brosig-Koch et al. (2017), even though we introduce a third party as well as a second decision stage in our experiment.

> **Result 1**: *The different Physician payment systems have a significant influence on the reporting and provision behavior. The fee for service system induces more selfish Physician behavior in the student samples.*

3.3 Differences between Neutral and Medical Framing

To evaluate the influence of framing on reporting behavior, we compare the results of our student samples (Table 8). We find only small differences in the reporting behavior

[12] This indicates, that type M patients are better off in the fee for service system. However, when we look at the absolut deviations from the optimum (see A.2 and A.11), we see that this is not the case, as there are both under- and overprovision of medical services.

of students across neutrally and medically framed experiments. Misreporting is higher in the neutral framing for type L Patients (CNS 0.22 vs. CMS 0.13 & FNS 1 vs. FMS 0.44) but only the difference in the fee for service systems is statistically different from zero. The pattern is different for type M Patients. Here overreporting is significantly higher in the medically framed capitation treatment (CNS 0.04 vs. CMS 0.33). Reporting for H type Patients does not differ between framings. For both framings we find significant average overreporting in the fee for service system. The magnitude was lower for patients in the medically framed experiments, however the difference in overreporting between neutrally and medically framed treatments is only significant for Patients of type L.

When we compare the provision behavior between neutral framing and medical framing, the only significant difference we find is for type L Patients in the fee for service setting, where the overprovision of Medical Services is higher in the neutral framing.

This leads us to our second overall result:

Result 2: *The Medical Framing induces a slightly more Patient-oriented behavior of the Physician.*

Table 8: Differences between Neutral and Medical Framing

		Avg. Misreporting			Avg. Maltreatment		
		Framing			Framing		
Patient	Payment System	Neutral	Medical	U-Test	Neutral	Medical	U-Test
L	FFS	**1**	**0.44**	**	**2.11**	**0.96**	**
	CAP	**0.22**	**0.13**		0.04	0.08	
M	FFS	**0.56**	**0.52**		**0.44**	-0.04	
	CAP	0.04	**0.33**	**	**-1**	**-0.83**	
H	FFS	0	-0.04		**-0.26**	**-0.33**	
	CAP	**-0.15**	-0.04		**-0.63**	**-0.54**	

Notes: Analysis only for student subject sample. Columns 3-5: Average misreporting across experimental conditions. Zero misreporting refers to the case where the true type equals the reported type. Columns 6-8: Average provision of medical services across experimental conditions. Positive values indicate an overprovision of medical services. Negative values indicate underprovision of medical services. Bold formated values are significantly different from zero (one-sided t-tests, $p<0.1$). Columns 5 & 8: U-Test: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of misreporting/provided medical services between experimental conditions. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

3.4 Differences between Student and Physician samples

As a last comparison, we evaluate the effects of different subject pools by comparing the medically framed experiments of student and medical doctor subjects (Table 9). Reporting behavior of the students and medical doctors is very similar. The only significant difference is for type L Patients in the fee for service setting, where students on average overreport in contrast to the doctors, who report truthfully.

In line with the reporting behavior, also the provision of Medical Services does hardly differ between the subject groups. Again, the only significant difference is for type L Patients in the fee for service setting, where students overprovide significantly in contrast to the doctors, who provide the optimal number of services. This leads us to our third overall result:

Result 3: *Behavior of medical doctors and medically framed students is similar.*

Table 9: Differences between Student and Medical Doctor Samples

		Avg. Misreporting			Avg. Maltreatment		
		Subjects			Subjects		
Patient	Payment System	Students	Doctors	U-Test	Students	Doctors	U-Test
L	FFS	**0.44**	0	*	**0.96**	0	**
	CAP	**0.13**	0		0.08	0	
M	FFS	**0.52**	**0.33**		-0.04	**-0.89**	
	CAP	**0.33**	0.08		**-0.83**	**-1.08**	
H	FFS	-0.04	0		**-0.33**	0	
	CAP	-0.04	-0.08		**-0.54**	**-0.75**	

Notes: Analysis only for treatments with medical framing. Columns 3-5: Average misreporting across experimental conditions. Zero misreporting refers to the case where the true type equals the reported type. Columns 6-8: Average provision of medical services across experimental conditions. Positive values indicate an overprovision of medical services. Negative values indicate underprovision of medical services. Bold formated values are significantly different from zero (one-sided t-tests, $p<0.1$). Columns 5 & 8: U-Test: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of misreporting/provided medical services between experimental conditions. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

3.5 Regression Analysis - Payoffs and Experimental Variations

Reporting and provision of Medical Services ultimately results in different payoffs for Patient, Physician and Health Insurance. In order to analyze how the different experimental variations influence the trade off between the participants, we conduct a re-

gression analysis. Linear regression models allow us to identify differences in the conditional means of each experimental variation while keeping constant the other variations. As the payoffs of Patient, Physician and Health Insurance are interdependent by design we apply a seemingly unrelated regression model, to take the resulting cross equational error correlation into account. Table 10 summarizes the regression results. The dependent variables of one set of seemingly unrelated regressions are the expected payoff of the Patient, the payment to the Physician and the remaining endowment of the Health Insurance.[13] We estimate separate sets of seemingly unrelated regressions for the different Patient types. As explanatory variables we use dummies for the variations in Physician payment systems ("Fee For Service"), type of framings ("Medical Framing") and subject pools ("Medical Doctor").[14]

In regressions with low and medium Patient types, the *Fee For Service* coefficient is negative and significant for the Patient and Health Insurance, indicating that the Physician is willing to harm both other participants to increase her personal payoff. This is clearly visible for medium type Patients where the *Fee For Service* coefficient for the Physician is significantly positive. Whereas for low type Patients the fixed payment under *Capitation* is comparably high such that *Fee For Service* does not induce a significant difference in the payment of the Physician. For high type Patients, we observe a higher Patient payoff in the *Fee For Service* setting. The payment for the Physician is also significantly higher in the *Fee For Service* setting for high type Patients, while there is no significant difference in the insurance payoff. In line with Result 1 in a *Fee For Service* Physician payment system we find more selfish behavior of the Physician at the expense of Patient and Health Insurance.

When we look at the effects of different framings, we see that for low type Patients, a Medical Framing induces a higher payoff for both the Patient and the Health Insurance. For medium type Patients the payoff for the Patient is higher in the Medical Framing, while the Health Insurance payoff is lower. Physician payment in medical framing is lower, however this difference is only statistically significant for low type Patients. For high type Patients, we find no significant effect of the medical framing on any of the three payoffs. This shows that - in line with Result 2 - medical framing induces Physicians to behave more Patient oriented, at their own cost and expense of Health Insurance.

Looking at the different subject pools reveals only minor differences between students and medical doctors. The only significant difference is a higher Patient payoff for

[13]The actual payoff of the Patient is zero or 90. As the provision of Medical Services determines the probability of receiving a payoff, we use the expected payoff of the Patient.

[14]We also estimate the models controlling for subject characteristics. This does only marginally influence the results (see Table A.16 in the Appendix).

Table 10: Regression Results - Payoff for different Participants by Patient Type

		Patient	Physician	Health Insurance
Patient Type L	Fee For Service	-28.57***	-0.51	-10.51***
		(3.82)	(2.97)	(2.72)
	Medical Framing	11.02***	-8.76***	7.52**
		(4.18)	(3.25)	(2.97)
	Medical Doctor	11.94**	-5.68	4.23
		(5.56)	(4.32)	(3.96)
	Constant	74.79***	56.09***	77.76***
		(3.48)	(2.70)	(2.48)
Patient Type M	Fee For Service	-7.32***	10.46***	-15.27***
		(2.66)	(2.56)	(3.52)
	Medical Framing	5.72**	-3.64	-3.96
		(2.91)	(2.80)	(3.85)
	Medical Doctor	-0.74	-5.37	9.30*
		(3.88)	(3.73)	(5.12)
	Constant	56.66***	53.10***	77.64***
		(2.43)	(2.33)	(3.21)
Patient Type H	Fee For Service	8.66**	36.30***	-2.85*
		(4.16)	(1.65)	(1.69)
	Medical Framing	-0.31	-0.59	-0.65
		(4.55)	(1.80)	(1.85)
	Medical Doctor	1.93	2.27	0.09
		(6.06)	(2.40)	(2.46)
	Constant	71.17***	49.91***	43.93***
		(3.79)	(1.50)	(1.54)

Notes: Coefficients of seemingly unrelated regressions; Standard errors in parentheses; Number of observations in each estimation: 126; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

low type Patients in the medical doctor sample. All other differences between subject pools are small and not significantly different from zero. This is also in line with Result 3, as students and medical doctors behave rather similar, with medical doctors caring slightly more about the Patient payoff.

3.6 Provision Conditional on Reporting

In order to gain insights into the motivation behind our subjects' behavior, we analyze the Medical Service provision conditional on reporting for the different Patient types. A detailed overview on our participants' behavior is given in Tables A.13, A.14 and A.15 (in the Appendix).

For type L Patients, misreporting is not necessary to obtain a budget that is sufficient for optimal Medical Service provision. Therefore, misreporting cannot be explained by Patient oriented motives. In the fee for service setting, the Physician has an incentive to overreport, as the resulting budget enables her to provide a higher number of services, which increases her personal payoff. More than half of the participants in the neutrally framed fee for service setting overreport, where the vast majority then provide the maximum number of services in order to maximize their own profit.

For type M Patients, overreporting is necessary to obtain a budget which is sufficient for optimal Medical Service provision. In the capitation setting overreporting can only be motivated by external factors i.e. providing the optimal number of services for the Patient (or harming the Health Insurance). In the majority of cases, overreporting is used to provide the optimal number of services for the Patient. In the fee for service settings with Patients of type M, overreporting can be motivated by the personal financial incentive, the willingness to provide the optimal number of services for the Patient, or a combination of both. Providing the maximum number of services (overprovision by two) is motivated fully by personal interests, while overproviding by one could partly be motivated by earning more personally but also not harming the Patient more than she would have been harmed when the doctor reported her true type to the Health Insurance. The neutral framing mainly leads to Physicians maximizing their own payoff by providing the maximum number of services. Although the majority of participants also provides the maximum number of services in the medically framed setting, a larger portion either chooses the optimal number of services or only partially overprovides.

The medical doctors in our sample use the overreporting not to maximize their own payoff, but to treat the Patients optimally.[15] Observed differences between our neutrally framed and the medically framed experiments suggest that the medical framing induces more Patient oriented behavior, whereas the neutral framing leads to more self-centered, individual payoff maximizing behavior.

4 Discussion and Conclusion

We conduct a controlled laboratory experiment to investigate how Physicians trade off between their own, their Patients' and the Health Insurances' benefits under prospective payment schemes. We modify the experimental design of the seminal works by Hennig-Schmidt et al. (2011) and Brosig-Koch et al. (2017) and introduce a third party that provides a budget for Medical Service provision. A further contribution to the literature is our variation of framings and subject pools.

[15] One medical doctor underprovides even though she overreports for the type M Patient.

Even though we introduce a third party in our experiment, our results on the differences between a capitation and a fee for service Physician payment system are similar to other experimental studies. Capitation systems are more beneficial for Patients with a low severity of illness, while in fee for service systems Patients with low severity of illness are harmed due to overprovision of Medical Services. For Patients with a high severity of illness, the fee for service system is more beneficial, since the personal financial incentive of the Physician to provide more services is aligned to the higher demand for Medical Services of those Patients.

In addition, we show that physicians care about the payoff of a third party that finances Medical Service provision, an observation in line with results from surveys of physicians. This care for the third party can lead to underprovision of Medical Services to save costs for the third party. This is in particular the case where physicians are not incentivised to provide many medical services. Previous experimental studies on physician behavior were not able to identify such concerns.

In our experiment, behavior of participants is similar across framings and subject pools. Nevertheless, there are some differences. We find that neutrally framed experiments induce more selfish behavior, while Physicians in the medically framed experiments did care more about the Patient payoff. For our sample of medical doctors, we observe the most Patient oriented behavior.

Our results suggest that although the Physician payment system does play a major role in the decision about Medical Service provision, the mechanism through which this provision is financed must not be neglected. Further research on the interaction of Physician payment and budget provision is needed to improve current incentive structures in the medical sector.

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Appendix A

Table A.1: Misreporting of Type L Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	0.22**
CMS	0.13*
CMD	0
FNS	1***
FMS	0.44***
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***	***	.	.
FMS		*	*	**	.
FMD			.	***	*

Notes: *Left table*: Average Misreporting across Treatments. Zero Misreporting refers to the case where the True Type (L) equals the Reported Type (L). Overreporting by one/two refers to the case where M/H is reported whereas the True Type is L. Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant overreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of (mis)reporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.2: Misreporting of Type M Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	0.04
CMS	0.33***
CMD	0.08
FNS	0.56***
FMS	0.52***
FMD	0.33**

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS	**	.	.	.	.
CMD			.	.	.
FNS	***		***	.	.
FMS	***		**		.
FMD	*				

Notes: *Left table*: Average Misreporting across Treatments. Zero Misreporting refers to the case where the True Type (M) equals the Reported Type (M). Overreporting/Underreporting by +1/-1 refers to the case where H/L is reported, whereas the True Type is M. Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant overreporting/underreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of (mis)reporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.3: Misreporting of Type H Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	-0.15*
CMS	-0.04
CMD	-0.08
FNS	0
FMS	-0.04
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	*			.	.
FMS					.
FMD				.	

Notes: *Left table*: Average Misreporting across Treatments. Zero Misreporting refers to the case where the True Type (H) equals the Reported Type (H). Underreporting by one/two refers to the case where M/L is reported whereas the True Type is H. Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant underreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of (mis)reporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.4: Maltreatment of Type L Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	0.04
CMS	0.08
CMD	0
FNS	2.11***
FMS	0.96***
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***	***	.	.
FMS	***	***	***	**	.
FMD			.	***	**

Notes: *Left table*: Average Provision of (medical) Services across Treatments. Positive Values indicate an overprovision of (medical) Services. Negative Values indicate underprovision of (medical) Services. Stars indicate p-Values of one-sided t-tests, testing whether the mean Provision of (medical) Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided (medical) Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.5: Maltreatment of Type M Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	-1***
CMS	-0.83***
CMD	-1.08***
FNS	0.44*
FMS	-0.04
FMD	-0.89***

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***	***	.	.
FMS	***	**	**		.
FMD				**	

Notes: *Left table*: Average Provision of (medical) Services across Treatments. Positive Values indicate an overprovision of (medical) Services. Negative Values indicate underprovision of (medical) Services. Stars indicate p-Values of one-sided t-tests, testing whether the mean Provision of (medical) Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided (medical) Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.6: Maltreatment of Type H Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	-0.63***
CMS	-0.54**
CMD	-0.75*
FNS	-0.26*
FMS	-0.33**
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	**			.	.
FMS					.
FMD	*				

Notes: *Left table*: Average Provision of (medical) Services across Treatments. Positive Values indicate an overprovision of (medical) Services. Negative Values indicate underprovision of (medical) Services. Stars indicate p-Values of one-sided t-tests, testing whether the mean Provision of (medical) Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided (medical) Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.7: Absolut Misreporting of Type L Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	0.22**
CMS	0.13*
CMD	0
FNS	1***
FMS	0.44***
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***	***	.	.
FMS		*	*	**	.
FMD			.	***	*

Notes: *Left table*: Average absolut misreporting across Treatments. Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant overreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of misreporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.8: Absolut Misreporting of Type M Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	0.11**
CMS	0.33***
CMD	0.08
FNS	0.63***
FMS	0.52***
FMD	0.33**

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS	*	.	.	.	.
CMD			.	.	.
FNS	***	**	***	.	.
FMS	***		**		.
FMD					

Notes: *Left table*: Average absolut misreporting across Treatments. Zero misreporting refers to the case where the True Type (M) equals the Reported Type (M). Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant misreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of misreporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.9: Absolut Misreporting of Type H Patients across Experimental Conditions

Treatment	Avg. Misreporting
CNS	0.15*
CMS	0.04
CMD	0.08
FNS	0
FMS	0.04
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	*			.	.
FMS					.
FMD				.	

Notes: *Left table*: Average absolut misreporting across Treatments. Zero misreporting refers to the case where the True Type (H) equals the Reported Type (H). Stars indicate p-Values of one-sided t-tests, testing whether there is statistically significant underreporting. *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of (mis)reporting between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.10: Absolut Maltreatment of Type L Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	0.11**
CMS	0.08
CMD	0
FNS	2.19***
FMS	1.11***
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***	***	.	.
FMS	***	***	***	**	.
FMD			.	***	***

Notes: *Left table*: Average absolut maltreatment across Treatments. Stars indicate p-Values of one-sided t-tests, testing whether the mean absolut Provision of medical Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided medical Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

Table A.11: Absolut Maltreatment of Type M Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	1***
CMS	0.83***
CMD	1.08***
FNS	1.41***
FMS	1.15***
FMD	0.89***

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	***	***		.	.
FMS		*			.
FMD				*	

Notes: *Left table*: Average absolut maltreatment across Treatments. Stars indicate p-Values of one-sided t-tests, testing whether the mean absolut Provision of medical Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided medical Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

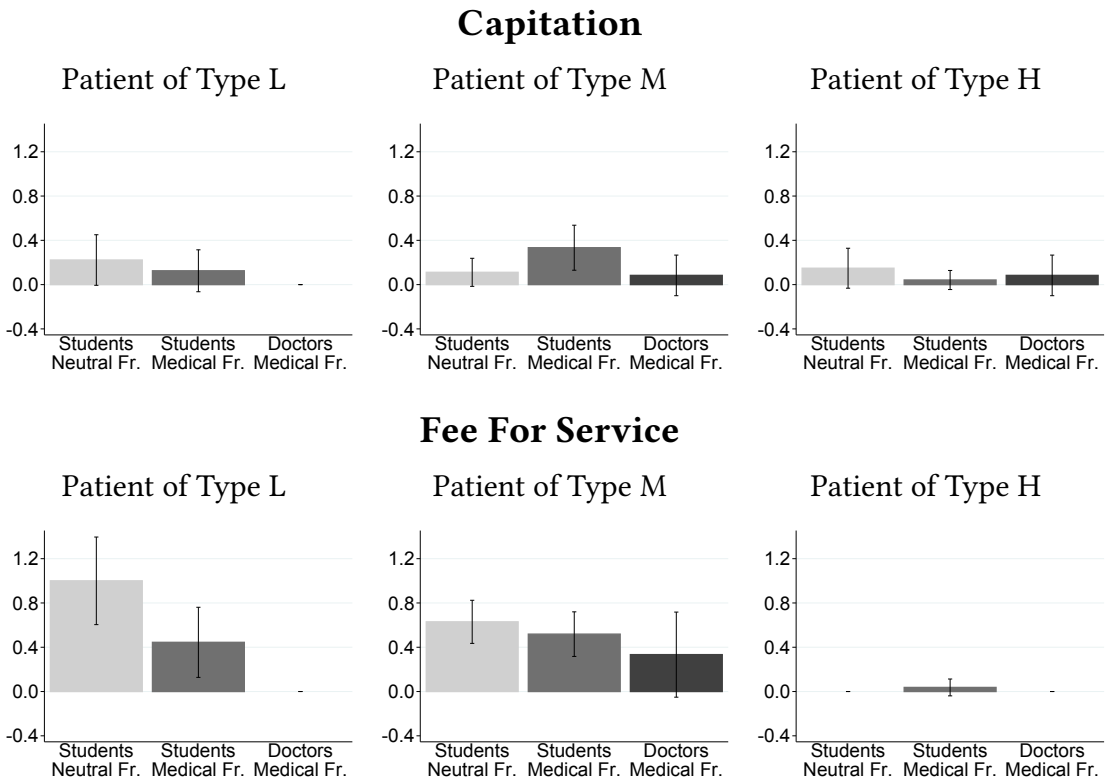
Table A.12: Absolut Maltreatment of Type H Patients across Experimental Conditions

Treatment	Avg. Maltreatment
CNS	0.63***
CMS	0.54**
CMD	0.75*
FNS	0.26*
FMS	0.33**
FMD	0

Treatment	CNS	CMS	CMD	FNS	FMS
CNS	.	.	.	.	.
CMS		.	.	.	.
CMD			.	.	.
FNS	**			.	.
FMS					.
FMD	*				

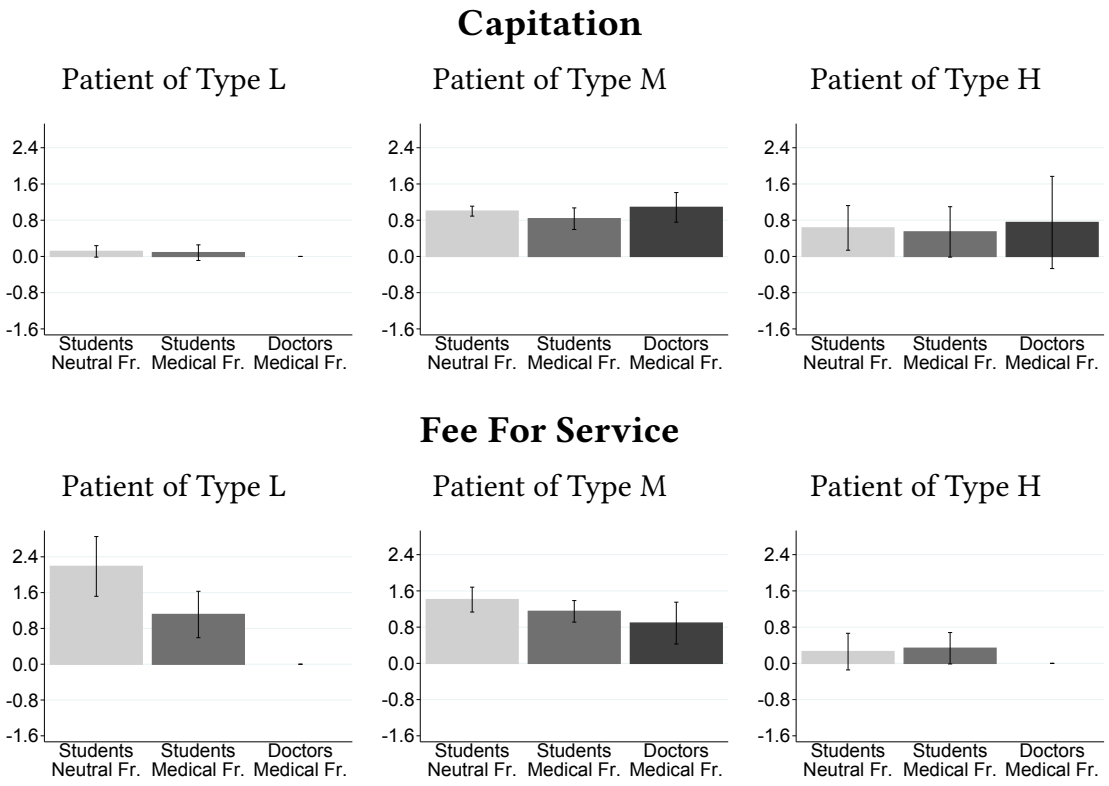
Notes: *Left table*: Average absolut maltreatment across Treatments. Stars indicate p-Values of one-sided t-tests, testing whether the mean absolut Provision of medical Services differs significantly from 0 (optimal number of provided Services). *Right table*: Stars indicate p-Values of Mann-Whitney U-tests of pairwise comparisons of Provided medical Services between treatments. * p<0.1, ** p<0.05, *** p<0.01

Figure A.1: Absolut Average Misreporting across Experimental Conditions



Notes: This figure illustrates average absolut misreporting and 95% confidence intervals across experimental conditions. Misreporting refers to the case where the reported Patient type differs from the true Patient type.

Figure A.2: Absolut Maltreatment across Experimental Conditions



Notes: This figure illustrates average absolut maltreatment and 95% confidence intervals across experimental conditions. The values are standardized such that optimal Medical Service provision is 0.

Table A.13: Reporting and Provision of Medical Services for Type L Patients

	Reported	Provided Services						
Treatment	Type	1	**2**	3	4	5	6	Obs.
	L	0	**23**	0	.	.	.	23
CNS	M	0	**1**	1	.	.	.	2
	H	1	**0**	1	0	0	0	2
	L	0	**22**	0	.	.	.	22
CMS	M	0	**1**	0	.	.	.	1
	H	0	**0**	0	1	0	0	1
	L	0	**12**	0	.	.	.	12
CMD	M	0	**0**	0	.	.	.	0
	H	0	**0**	0	0	0	0	0
	L	1	**4**	8	.	.	.	13
FNS	M	0	**0**	1	.	.	.	1
	H	0	**0**	1	0	0	12	13
	L	2	**8**	10	.	.	.	20
FMS	M	0	**0**	2	.	.	.	2
	H	0	**1**	0	0	0	4	5
	L	0	**9**	0	.	.	.	9
FMD	M	0	**0**	0	.	.	.	0
	H	0	**0**	0	0	0	0	0

Notes: Dots indicate non-achievable outcomes. Bold formated values represent the optimal number of Medical Services for the Patient of type L.

Table A.14: Reporting and Provision of Medical Services for Type M Patients

Treatment	Reported Type	Provided Services 1	2	3	**4**	5	6	Obs.
CNS	L	0	0	1	.	.	.	1
	M	0	1	23	.	.	.	24
	H	0	0	1	**1**	0	0	2
CMS	L	0	0	0	.	.	.	0
	M	0	0	16	.	.	.	16
	H	0	2	0	**6**	0	0	8
CMD	L	0	0	0	.	.	.	0
	M	0	2	9	.	.	.	11
	H	0	0	0	**1**	0	0	1
FNS	L	1	0	0	.	.	.	1
	M	0	0	10	.	.	.	10
	H	0	0	0	**2**	3	11	16
FMS	L	0	0	0	.	.	.	0
	M	0	2	11	.	.	.	13
	H	0	0	1	**3**	5	5	14
FMD	L	0	0	0	.	.	.	0
	M	0	1	5	.	.	.	6
	H	0	0	1	**2**	0	0	3

Notes: Dots indicate non-achievable outcomes. Bold formated values represent the optimal number of Medical Services for the Patient of type M.

Table A.15: Reporting and Provision of Medical Services for Type H Patients

Treatment	Reported Type	Provided Services 1	2	3	4	5	**6**	Obs.
CNS	L	1	0	0	.	.	.	1
	M	0	0	2	.	.	.	2
	H	0	0	0	1	4	**19**	24
CMS	L	0	0	0	.	.	.	0
	M	0	0	1	.	.	.	1
	H	1	0	1	1	0	**20**	23
CMD	L	0	0	0	.	.	.	0
	M	1	0	0	.	.	.	1
	H	0	0	1	0	1	**9**	11
FNS	L	0	0	0	.	.	.	0
	M	0	0	0	.	.	.	0
	H	1	0	0	1	0	**25**	27
FMS	L	0	0	0	.	.	.	0
	M	0	1	0	.	.	.	1
	H	0	0	0	1	3	**22**	26
FMD	L	0	0	0	.	.	.	0
	M	0	0	0	.	.	.	0
	H	0	0	0	0	0	**9**	9

Notes: Dots indicate non-achievable outcomes. Bold formated values represent the optimal number of Medical Services for the Patient of type H.

Table A.16: Regression Results - Payoff for different Participants by Patient Type

		Patient		Physician		Health Insurance	
	Fee For Service	-28.57***	-28.76***	-0.51	-0.68	-10.51***	-10.75***
		(3.82)	(3.81)	(2.97)	(2.94)	(2.72)	(2.71)
	Medical Framing	11.02***	10.93**	-8.76***	-9.48***	7.52**	7.23**
		(4.18)	(4.32)	(3.25)	(3.33)	(2.97)	(3.07)
	Medical Doctor	11.94**	8.40	-5.68	-3.64	4.23	5.38
		(5.56)	(9.07)	(4.32)	(6.99)	(3.96)	(6.44)
	Age	–	0.30	–	-0.19	–	-0.03
Patient		–	(0.51)	–	(0.39)	–	(0.36)
Type L	Female	–	6.34	–	-6.86**	–	3.83
		–	(3.93)	–	(3.03)	–	(2.79)
	Pro Social	–	-4.10	–	1.72	–	-3.88
		–	(3.99)	–	(3.08)	–	(2.84)
	Always Optimal Treatment	–	-1.53	–	1.73	–	0.62
		–	(2.94)	–	(2.26)	–	(2.09)
	Constant	74.79***	72.87***	56.09***	56.35***	77.76***	75.25***
		(3.48)	(17.99)	(2.70)	(13.86)	(2.48)	(12.78)
	Fee For Service	-7.32***	-7.46***	10.46***	10.86***	-15.27***	-15.88***
		(2.66)	(2.58)	(2.56)	(2.50)	(3.52)	(3.47)
	Medical Framing	5.72**	5.60*	-3.64	-3.04	-3.96	-4.96
		(2.91)	(2.93)	(2.80)	(2.83)	(3.85)	(3.94)
	Medical Doctor	-0.74	10.39*	-5.37	6.34	9.30*	-4.31
		(3.88)	(6.14)	(3.73)	(5.94)	(5.12)	(8.27)
	Age	–	-0.73**	–	-0.86***	–	1.00**
Patient		–	(0.34)	–	(0.33)	–	(0.46)
Type M	Female	–	2.63	–	-4.73*	–	3.12
		–	(2.66)	–	(2.58)	–	(3.59)
	Pro Social	–	-4.93*	–	2.29	–	-0.78
		–	(2.71)	–	(2.62)	–	(3.64)
	Always Optimal Treatment	–	2.43	–	1.17	–	2.42
		–	(1.99)	–	(1.92)	–	(2.68)
	Constant	56.66***	63.01***	53.10***	69.06***	77.64***	42.65***
		(2.43)	(12.19)	(2.33)	(11.78)	(3.21)	(16.40)
	Fee For Service	8.66**	6.50*	36.30***	35.93***	-2.85*	-2.45
		(4.16)	(3.89)	(1.65)	(1.60)	(1.69)	(1.67)
	Medical Framing	-0.31	-5.02	-0.59	-1.40	-0.65	0.16
		(4.55)	(4.42)	(1.80)	(1.81)	(1.85)	(1.89)
	Medical Doctor	1.93	1.99	2.27	5.85	0.09	3.25
		(6.06)	(9.26)	(2.40)	(3.80)	(2.46)	(3.97)
	Age	–	0.06	–	-0.24	–	-0.23
Patient		–	(0.52)	–	(0.21)	–	(0.22)
Type H	Female	–	-6.15	–	-1.93	–	1.08
		–	(4.02)	–	(1.65)	–	(1.72)
	Pro Social	–	-10.97***	–	-1.78	–	0.42
		–	(4.08)	–	(1.67)	–	(1.75)
	Always Optimal Treatment	–	10.46***	–	3.53***	–	-2.89**
		–	(3.00)	–	(1.23)	–	(1.29)
	Constant	71.17***	33.34*	49.91***	41.64***	43.93***	61.23***
		(3.79)	(18.37)	(1.50)	(7.53)	(1.54)	(7.87)

Notes: Coefficients of seemingly unrelated regressions; Standard errors in parentheses; Number of observations in each estimation: 126; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; Description of additional variables: "Pro Social" (Subjects with a cooperative/pro social attitude (obtained from social value orientation slider measure)), "Always Optimal Treatment" (Subjects where confronted with the following statement: "People should always get the optimal medical treatment." Possible answers ranged from one to five, where a higher number represents higher consent with the statement),

Appendix B1 - Instructions Neutral Framing

Capitation / Fee For Service

General information

Welcome! Today you participate in an economic experiment.

You receive 4 Euro for showing up on time. In the course of the experiment you can earn additional money. Therefore, please take the time to read the following instructions carefully.

You will make your decisions individually and anonymously at your place. During the experiment please do not communicate with the other participants and do not use your mobile phone. If you violate these rules we will exclude you from the experiment without any payment.

If you have any questions please raise your hand. We will then come to your place and answer the question. In the experiment we will use the currency "Taler".

The payment for each participant will be converted into Euros at the end of the experiment and paid out in cash. The exchange rate is **10 Taler = 1 Euro**. The payment will be anonymous, i.e. no other participant will be informed about your payment.

The experiment

Group formation and types of participants

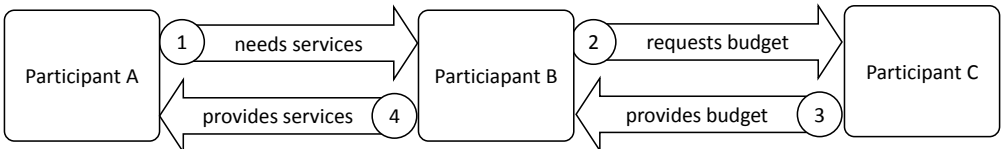
Groups with 3 persons will be randomly formed before the beginning of the experiment. This group composition will not change during the whole experiment – you will always stay in the group with the same two people. You will have nothing to do with the other groups and their members during the whole experiment.
Within the groups there will be each one of three types of participants: **A, B and C**. The roles within one group are randomly assigned.
Only participant B can influence the payments of his/her group members with his/her decisions. Participant A and participant C will not make any decisions in the experiment.

Course of the experiment

Until the end of the experiment no one of the three group members knows which participant role has been assigned to him/her. At first every group member makes decisions, as if he/she was in the role of participant B. After all group members made their decision in the role of participant B, it will be announced how the roles inside the group have been randomly assigned. Only the decisions of that group member who was assigned the role of participant B are relevant for the payment and influence the payments of the group members. The decisions of those group members who are assigned roles of participant A or C are not relevant for the payment.

Relationship between the participants

Participant A needs services from participant B. The payment of participant A is influenced by the number of services that he/she receives from participant B. The services are associated with costs. In order to cover costs, participant B needs a budget that he/she has to request from participant C. While requesting the budget participant B reports information about participant A to participant C. The number of the budget depends on which information about participant A has been reported to participant C via participant B. After participant B received the budget, which was subtracted from the endowment of participant C, she decides which number of service he/she wants to provide for participant A. The following picture illustrates the relationship between the participants of the experiment:



Description of the participants and their payments

Participant A

Participant A can take on one of **three possible types: Type L, M or H**. He himself/she herself does not learn about her own type and does not make own decisions. His/her possible payment depends on his/her type and on the number of services that participant B provides.

The payment of participant A can take on two possible values: 90 Taler or 0 Taler. The number of provided services determines the probability of occurrence of these possible payments.

Depending on the type of participant A the probability of a payment of 90 is maximized by different numbers of services:

Type	Optimal number of services
L	2 units
M	4 units
H	6 units

A payment of 90 Taler is more probable the closer the number of provided services is to the optimal number of services for participant A:

- If the number of services provided by participant B is optimal for participant A, he/she receives a payment of 90 Taler with a probability of 95%. With a probability of 5% she receives a payment of 0 Taler.
- If the number of actually provided services by participant B deviates by one unit from the optimal number of services for participant A, participant A receives a payment of 90 Taler with a probability of 65%. With a probability of 35% he/she receives a payment of 0 Taler.
- If the number of actually provided services by participant B deviates by two units from the optimal number of services for participant A, participant A receives a payment of 90 Taler with a probability of 35%. With a probability of 65% he/she receives a payment of 0 Taler.
- If the number of actually provided services by participant B deviates by three units or more from the optimal number of services for participant A, participant A receives a payment of 90 Taler with a probability of 5%. With a probability of 95% he/she receives a payment of 0 Taler.

The following three tables provide an overview of all payments of the tree possible types of participant A, depending on the number of services provided by participant B:

	Participant A of **type L**	
Number of services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	65%	35%
2	95%	5%
3	65%	35%
4	35%	65%
5	5%	95%
6	5%	95%

	Participant A of **type M**	
Number of services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	5%	95%
2	35%	65%
3	65%	35%
4	95%	5%
5	65%	35%
6	35%	65%

	Participant A of **type H**	
Number of services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	5%	95%
2	5%	95%
3	5%	95%
4	35%	35%
5	65%	65%
6	95%	5%

The group member which has been assigned to the role of participant A learns at the end of the experiment how high their payment is.

Participant B

Participant B is confronted with the different types of participant A in three situations occurring in random order and has to make decisions. After he/she made a decision in all the situations, **one** situation will be randomly selected. The decisions made in this selected situation determine the payments of the group members. Each situation in this experiment will be payment relevant equally often, i.e. all situations are equally likely.

Only participant B learns about the type of participant A. Neither participant A nor participant C will learn the type of participant A at any time.

Participant B decides in every situation which number of services he/she wants to provide for participant A.

The payment of participant B is independent of the number of services that he/she provides for participant A. Participant B receives 50 Taler in every situation.
The payment of participant B is dependent on the number of services that he/she provides for participant A. Participant B receives 15 Taler per unit of service provided.

The provided services are associated with **costs**. Every unit of service provided costs 15 Taler. These costs are not beard by participant B but are financed by a **budget**, which is subtracted from the endowment of participant C and has to be requested by participant B. Therefor participant B informs participant C about participant A's type. If participant B informs participant C that participant A is a type L or M, she will be automatically provided the budget package I (45 Taler). If she reports that participant A is type H, then she will be automatically provided with budget package II (90 Taler). The budget available is automatically subtracted from the endowment of participant C.

Participant B cannot exceed the budget available.

The group member that has been assigned to the role of participant B, learns at the end of the experiment which situation is payment relevant. He/she also learns which payments resulted from his/her decisions for participant A and participant C.

Participant C

Participant C does not learn which type participant A is and does not make any own decisions. Participant C owns an **endowment of 130 Taler**. The information about participant A reported by participant B determines automatically the provided budget. Participant C cannot influence the size of the budget available.

The available budget is subtracted from the endowment of participant C. The remaining endowment determines the payment for participant C.

The group member who is assigned to the role of participant C, learns at the end of the experiment which information he/she got from participant B in the randomly assigned situation and which number of services participant B provided for participant A in this situation.

The following two tables provide an overview of the budget packages and the costs:

Budget group		
Type	Budged group	Budget
L M	I	45
H	II	90

Cost table	
Service units	Total costs
1	15
2	30
3	45
4	60
5	75
6	90

Budget, which is not used by participant B for provision of services does not benefit any of the participants A, B or C.

Summary of the course of a situation

1) Participant B learns in every situation which of the three possible types participant A is in the current case. Participant A and participant C do not have any information about the type of participant A at any point of time.
2) Participant B tells participant C which type participant A is.
3) On the basis of her message about participant A, participant B will be provided a budget package. The budget associated with that will be subtracted from the endowment of participant C.
4) Participant B decides which number of services she wants to provide for participant A.

Summary of payment determination

At the end of the experiment it is announced how the roles for participants A, B and C have been randomly assigned within each group. Only the decisions of that group member which has been assigned to the role of participant B are payment relevant and influence the payments of the group members. Afterwards one of the three situations is randomly chosen. The payments for each of the participants result from the decision of participant B in this situation as follows:

Payment of participant A

The payment of participant A is determined by the number of services provided by participant B. The closer the provided number of services is to the optimal number of services provided, the higher is the likelihood that participant A receives a payment of 90 Taler. The further the provided number of services deviates from the optimal number of services provided the higher is the likelihood that participant A receives a payment of 0 Taler.

Payment of participant B

The payment of participant B is independent from the number of services provided for participant A. Participant B receives 50 Taler in every situation. They payment of participant B is dependent on the number of service provided for participant A. Participant B receives 15 Taler per unit of service provided.

Payment of participant C

The endowment of participant C is 130 Taler. The budget available connected to the requested budget package is subtracted from the endowment of participant C. The remaining endowment determines the payment of participant C.

You reached the end of the instructions. You can continue by clicking OK on the screen.

Appendix B2 - Instructions Medical Framing

Capitation / Fee For Service

General information

Welcome! Today you participate in an economic experiment.

You receive 4 Euro for showing up on time. In the course of the experiment you can earn additional money. Therefore, please take the time to read the following instructions carefully.

You will make your decisions individually and anonymously at your place. During the experiment please do not communicate with the other participants and do not use your mobile phone. If you violate these rules we will exclude you from the experiment without any payment.

If you have any questions please raise your hand. We will then come to your place and answer the question. In the experiment we will use the currency "Taler".

The payment for each participant will be converted into Euros at the end of the experiment and paid out in cash. The exchange rate is **10 Taler = 1 Euro**. The payment will be anonymous, i.e. no other participant will be informed about your payment.

The experiment

Group formation and types of participants

Groups with 3 persons will be randomly formed before the beginning of the experiment. This group composition will not change during the whole experiment – you will always stay in the group with the same two people. You will have nothing to do with the other groups and their members during the whole experiment.

Within the groups there will be each one of three types of participants: **Patient, Physician and Health Insurance**. The roles within one group are randomly assigned.

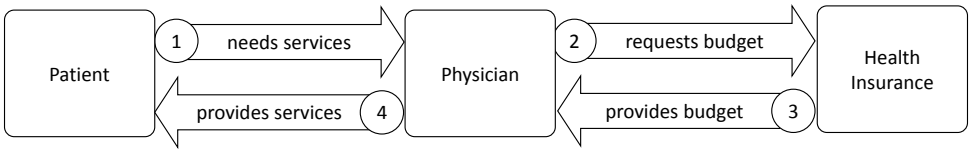
Only the Physician can influence the payments of his/her group members with his/her decisions. Patient and Health Insurance will not make any decisions in the experiment.

Course of the experiment

Until the end of the experiment no one of the three group members knows which participant role has been assigned to him/her. At first every group member makes decisions, as if he/she was in the role of the Physician. After all group members made their decision in the role of the Physician, it will be announced how the roles inside the group have been randomly assigned. Only the decisions of that group member who was assigned the role of the Physician are relevant for the payment and influence the payments of the group members. The decisions of those group members who are assigned roles of Patient or Health Insurance are not relevant for the payment.

Relationship between the participants

The Patient needs Medical Services from the Physician. The payment of the Patient is influenced by the number of Medical Services that he/she receives from the Physician. The Medical Services are associated with costs. In order to cover costs, the Physician needs a budget that he/she has to request from the Health Insurance. While requesting the budget the Physician reports information about the Patient to the Health Insurance. The number of the budget depends on which information about the Patient has been reported to the Health Insurance via the Physician. After the Physician received the budget, which was subtracted from the endowment of the Health Insurance, she decides which number of Medical Service he/she wants to provide for the Patient. The following picture illustrates the relationship between the participants of the experiment:



Description of the participants and their payments

Patient

The Patient can take on one of **three possible types: Type L, M or H**. He himself/she herself does not learn about her own type and does not make own decisions. His/her possible payment depends on his/her type and on the number of Medical Services that the Physician provides.

The payment of the Patient can take on two possible values: 90 Taler or 0 Taler. The number of provided Medical Services determines the probability of occurrence of these possible payments. Depending on the type of the Patient the probability of a payment of 90 is maximized by different numbers of Medical Services:

Type	Optimal number of Medical Services
L	2 units
M	4 units
H	6 units

A payment of 90 Taler is more probable the closer the number of provided Medical Services is to the optimal number of Medical Services for participant A:

- If the number of Medical Services provided by the Physician is optimal for the Patient, he/she receives a payment of 90 Taler with a probability of 95%. With a probability of 5% she receives a payment of 0 Taler.
- If the number of actually provided Medical Services by the Physician deviates by one unit from the optimal number of Medical Services for the Patient, the Patient receives a payment of 90 Taler with a probability of 65%. With a probability of 35% he/she receives a payment of 0 Taler.
- If the number of actually provided Medical Services by the Physician deviates by two units from the optimal number of Medical Services for the Patient, the Patient receives a payment of 90 Taler with a probability of 35%. With a probability of 65% he/she receives a payment of 0 Taler.
- If the number of actually provided Medical Services by the Physician deviates by three units or more from the optimal number of Medical Services for the Patient, the Patient receives a payment

of 90 Taler with a probability of 5%. With a probability of 95% he/she receives a payment of 0 Taler.

The following three tables provide an overview of all payments of the tree possible types of the Patient, depending on the number of Medical Services provided by the Physician:

	Patient of **type L**	
Number of Medical Services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	65%	35%
2	95%	5%
3	65%	35%
4	35%	65%
5	5%	95%
6	5%	95%

	Patient of **type M**	
Number of Medical Services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	5%	95%
2	35%	65%
3	65%	35%
4	95%	5%
5	65%	35%
6	35%	65%

	Patient of **type H**	
Number of Medical Services provided by participant B	Probability for payment of **90**	Probability for payment of **0**
1	5%	95%
2	5%	95%
3	5%	95%
4	35%	35%
5	65%	65%
6	95%	5%

The group member which has been assigned to the role of the Patient learns at the end of the experiment how high her payment is.

Physician

The Physician is confronted with the different types of the Patient in three situations occurring in random order and has to make decisions. After he/she made a decision in all the situations, **one** situation will be randomly selected. The decisions made in this selected situation determine the payments of the group members. Each situation in this experiment will be payment relevant equally often, i.e. all situations are equally likely.

Only the Physician learns about the type of the Patient. Neither the Patient nor the Health Insurance will learn the type of the Patient at any time.

The Physician decides in every situation which number ofMedical Services he/she wants to provide for the Patient.

The payment of the Physician is independent of the number of Medical Services that he/she provides for the Patient. The Physician receives 50 Taler in every situation.
The payment of the Physician is dependent on the number of Medical Services that he/she provides for the Patient. The Physician receives 15 Taler per unit of Medical Services provided.

The provided Medical Services are associated with **costs**. Every unit of Medical Services provided costs 15 Taler. These costs are not beard by the Physician but are financed by a **budget**, which is subtracted from the endowment of the Health Insurance and has to be requested by the Physician. Therefor the Physician informs the Health Insurance about the Patient's type. If the Physician informs the Health Insurance that the Patient is a type L or M, she will be automatically provided the budget package I (45 Taler). If she reports that the Patient is type H, then she will be automatically provided with budget package II (90 Taler). The budget available is automatically subtracted from the endowment of the Health Insurance.

Participant B cannot exceed the budget available.

The group member that has been assigned to the role of the Physician, learns at the end of the experiment which situation is payment relevant. He/she also learns which payments resulted from his/her decisions for the Patient and the Health Insurance.

Health Insurance

The Health Insurance does not learn which type the Patient is and does not make any own decisions. The Health Insurance owns an **endowment of 130 Taler**. The information about the Patient reported by the Physician determines automatically the provided budget. The Health Insurance cannot influence the size of the budget available.

The available budget is subtracted from the endowment of the Health Insurance. The remaining endowment determines the payment for the Health Insurance.

The group member who is assigned to the role of the Health Insurance, learns at the end of the experiment which information he/she got from the Physician in the randomly assigned situation and which number of Medical Services the Physician provided for the Patient in this situation.

The following two tables provide an overview of the budget packages and the costs:

Budget group		
Type	Budged group	Budget
L M	I	45
H	II	90

Cost table	
Service units	Total costs
1	15
2	30
3	45
4	60
5	75
6	90

Budget, which is not used by participant B for provision of Medical Services does not benefit the Patient, the Physician nor the Health Insurance.

Summary of the course of a situation

1) The Physician learns in every situation which of the three possible types the Patient is in the current case. The Patient and the Health Insurance do not have any information about the type of the Patient at any point of time.
2) The Physician tells the Health Insurance which type the Patient is.
3) On the basis of her message about the Patient, the Physician will be provided a budget package. The budget associated with that will be subtracted from the endowment of the Health Insurance.
4) The Physician decides which number of Medical Services she wants to provide for the Patient.

Summary of payment determination

At the end of the experiment it is announced how the roles for Patient, Physician and Health Insurance have been randomly assigned within each group. Only the decisions of that group member which has been assigned to the role of the Physician are payment relevant and influence the payments of the group members. Afterwards one of the three situations is randomly chosen. The payments for each of the participants result from the decision of the Physician in this situation as follows:

Payment of Patient

The payment of the Payment is determined by the number of Medical Services provided by the Physician. The closer the provided number of Medical Services is to the optimal number ofMedical Services provided, the higher is the likelihood that the Patient receives a payment of 90 Taler. The further the provided number of Medical Services deviates from the optimal number of Medical Services provided the higher is the likelihood that the Patient receives a payment of 0 Taler.

Payment of Physician

The payment of the Physician is independent from the number of Medical Services provided for the Patient. The Physician receives 50 Taler in every situation. They payment of the Physician is dependent on the number of Medical Services provided for the Patient. The Physician receives 15 Taler per unit of Medical Services provided.

Payment of Health Insurance

The endowment of the Health Insurance is 130 Taler. The budget available connected to the requested budget package is subtracted from the endowment of the Health Insurance. The remaining endowment determines the payment of the Health Insurance.

You reached the end of the instructions. You can continue by clicking OK on the screen.