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Introduction

Financial resources for public programs and services are limited. As a consequence, provision of publicly funded services is constrained and generic access to public programs infeasible. Policy makers are therefore required to think about how to allocate and target programs and services to individuals and about how to monitor and audit claims for the usage of these programs and services. This applies to many government policies and publicly funded services, ranging from cash benefit programs, such as social assistance, disability insurance and unemployment insurance, to active labor market policies, like job search assistance programs, reintegration services for the disabled and in-kind benefits such as publicly funded long-term care services.

Targeting of government policies can help to prevent the provision of services to individuals who do not really need them. It allows policy makers to direct services more precisely to those individuals for whom these are likely to be most effective. This either requires the identification of individuals who, without assistance from government policies, are likely to end up in disadvantaged states for a relatively long period of time, or the identification of individuals who are likely to benefit from certain policies and therefore belong to the group of intended beneficiaries.

Despite a clearly defined target group, policy makers still have to consider how claims for the usage of public programs and services can be monitored and audited. Targeting efficiency of public policy is concerned with the question whether those individuals to whom a specific program or particular service is targeted, are also the persons actually receiving the benefits or services in the end. Incentives for claiming benefits or services may be present even for individuals who are not part of the target group. As a result, the group of intended beneficiaries may be different from the

actual beneficiaries. Monitoring and auditing of the usage of public programs and of claims filed for publicly provided services may help to improve targeting efficiency.

The first part of this thesis zooms in on the identification of individuals who are likely to be in need of certain public programs or services. In particular, a new method is developed to identify individuals who are, without assistance from a particular public program or service, expected to remain in a certain (disadvantaged) state for a relatively long period of time. The performance of the method is tested in a simulation study and in an empirical application. Once decisions on targeting of particular services have been made, access to these services could be managed by means of monitoring and auditing. The second part of this thesis studies the effect of various auditing instruments on claims filed for the use of long-term care services.

It is not always straightforward to identify whether an individual is part of a specific target group. Issues of imperfect information complicate this identification process. Public agencies use a broad range of tools and instruments to allocate services to individuals and to determine who is to receive assistance from certain benefit schemes. First, caseworkers can decide who is eligible for the receipt of certain services and is likely to benefit from them, e.g., through meetings with potential recipients. In this case, the caseworker's subjective assessment and past experience in the allocation of public programs and services will determine who will receive the services.

A second instrument for the allocation of services is the definition of objective deterministic eligibility rules. Such deterministic rules describe the criteria that individuals have to meet in order to claim certain benefits or services. However, eligibility criteria are not always easy to measure and assess objectively. Furthermore, individuals may have an incentive to try to apply for services even though they do not actually belong to the target group.

Finally, policy makers could implement so-called statistical profiling and targeting methods. Statistical profiling and targeting methods aim to predict a certain outcome of interest for an individual, such as the time spent in unemployment, given his/her personal characteristics. These methods either identify groups of individuals at risk of bad outcomes (statistical profiling) or groups of individuals likely to benefit from a particular service (statistical targeting). A service could then be assigned to an individual who is either expected to have a bad outcome without assistance, or who is expected to benefit from the receipt of the service. Although various profiling and targeting methods have been studied, the predictive quality of these methods has been argued to be modest.

Chapter 2 of this thesis develops a new profiling method to identify individuals at risk of remaining in a state for a relatively long period of time in case no assistance is provided. The idea behind the method is simple: individuals who are comparable in terms of certain personal characteristics that help to explain the outcome of interest (e.g., gender, age, education level, and employment history), are expected to have similar outcomes. Typically, the outcome of interest is a duration outcome, that is, the time spent in a particular situation. For example, in the allocation of job search assistance programs, interest lies in the duration of unemployment with and/or without assistance. The profiling method proposed in this chapter investigates the probability of staying in a specific situation for at least a particular period. More specifically, the method computes the probability that an individual will ‘survive’ in the situation up to a certain moment based on observed probabilities in historical data. In computing this probability, observations of individuals who are more similar to the person for whom a prediction has to be made will carry more weight (i.e., are deemed more important) than observations of individuals who share less similarities.

The performance of the proposed ‘weighted survivor prediction method’ is compared to alternative profiling methods by means of a simulation study as well as an empirical application. According to the simulation results, the weighted survivor prediction method yields predictions of somewhat better quality than existing profiling methods in many of the scenarios considered in the simulation study, although the differences are small. The empirical application concerns the prediction of the duration of spells of collecting unemployment insurance benefits. The empirical test of the proposed profiling method provides less positive results than the simulation study. The weighted survivor prediction method does not yield predictions of significantly better quality than alternative profiling methods.

The second part of this thesis focuses on auditing as an instrument to manage access to public programs and services. Even when decisions on targeting of a particular policy have been made, eligibility rules have been clearly defined and an appropriate allocation mechanism has been implemented, the actual usage of services could differ from what was initially intended. Targeting efficiency could be sub-optimal amongst others due to ‘moral hazard’ problems. Moral hazard means that the mere existence of certain services and programs changes behavior of individuals. For example, if an individual knows of the availability of generous benefits, he/she may try to apply for this benefit scheme despite not being part of the actual target group. Screening and auditing schemes can help to improve targeting efficiency of a public policy by identifying individuals who belong to the target group and individuals who are not part of this group.

Screening and auditing can reduce the costs and improve the targeting efficiency of a program directly by (partially) denying access to individuals who are not part of the target group. Typically, a gatekeeper, which is an institution responsible for controlling access to public programs or services, assesses whether applicants satisfy a set of eligibility criteria and are awarded the requested benefits or services. In addition, audit schemes can have indirect effects by reducing the incentives people face for falsely applying for a particular service. Implementing audit procedures could thereby discourage moral hazard behavior. For example, an individual who would like to receive long-term care services may be less inclined to ask for slightly more care than actually needed when he/she knows that screening devices are likely to filter out incorrect applications.

However, screening and auditing mechanisms could also have a negative impact on targeting efficiency. Direct negative effects can result from errors in the screening process. Individuals who actually belong to the target group of a particular program may be falsely denied access. Alternatively, when auditing is less frequent, the likelihood of falsely awarding benefits to individuals who are not part of the target group ('false positives') increases. Auditing could also reduce targeting efficiency of a program indirectly. For example, when long-lasting and intensive screening delays the award of particular services, this may discourage truly eligible individuals to apply, particularly when services are needed quickly.

The challenge in the design of audit policies thus lies in simultaneously preventing misuse and safeguarding accessibility of services to those individuals who truly need them, given the limited budgets available for screening purposes. Various audit policy instruments are available for this, such as the amount of auditing, the intensity of audits, the consequences of negative audit outcomes (e.g., sanctions), and so forth. When designing audit policies, it is important to consider how each of these choices affects the applications for and the award of services.

Chapters 3 and 4 of this thesis focus on the design of audit policies. These chapters report on a randomized field experiment in the Dutch market for long-term care.² In the Netherlands, long-term care comprises chronic care for the elderly, the mentally and/or physically handicapped and chronic psychiatric patients. Spending on long-term care services has increased considerably over the last decade. Access to long-term care services is managed by a gatekeeper who audits applications

²Chapters 3 and 4 both provide an extensive description of the institutional background. This implies that there is some repetition in these chapters, but this makes that the chapters can be read independently.

for the provision of services. If a patient wants to receive long-term care services, he/she usually contacts a care provider first. Subsequently, the care provider files an application for the provision of long-term care services to the gatekeeper. The gatekeeper in turn translates this application into a so-called assessment of needs, stating, for instance, the type and amount of services the individual is eligible for. Before providing an assessment of needs, the gatekeeper may audit the application. In such an audit, specialized assessors employed by the gatekeeper make an objective assessment of the care needs of the patient and compare this to the long-term care services that have been requested by the care provider. In this thesis the effects of two audit policy instruments on application behavior of care providers are studied. The first instrument is the audit rate, i.e., the probability of an application being randomly selected for audit, which determines the amount of auditing. The second instrument concerns the extent to which there are consequences of negative audit outcomes.

In Chapter 3, the causal effect of the audit rate on application behavior is investigated. This is studied on applications for immediate (home and nursing) care. Because this type of care is typically quickly needed, care provision is allowed to start immediately and the result of an audit becomes available only afterwards. This is referred to as ex-post auditing. Ex-post auditing therefore has no direct effect on the type and amount of care that can be provided, not even if an audit reveals a discrepancy between care needs and requested care services. Nevertheless, care providers do receive feedback on the audits that took place. In choosing the audit rate, policy makers have to make a trade-off between the costs of more frequent screening on the one hand, and the effects on the number and quality (that is, the correspondence of requested and adjudged care services or actual care needs) of applications that are filed on the other hand.

The field experiment studies four audit regimes that differ in terms of the audit rate. Three of these audit regimes differ only in the level of the audit rate, which is fixed during the experiment. The fourth audit regime uses an audit rate whose level depends on the observed quality of applications in recent audits. More specifically, if an audit of an application has a negative outcome (that is, there is a difference between requested and adjudged care services), the future audit rate for the care provider who filed this application increases. On the contrary, when the audit has a positive outcome, the audit rate for the care provider filing the application is decreased in the next period. The results do not show any significant effect of the audit regime on the quantity and quality of applications for immediate care. The

absence of direct consequences of a negative audit outcome, because of ex-post auditing, is a likely explanation for this result.

Chapter 4 studies the effects of the timing of audit on application behavior. In the field experiment studied in this chapter, care providers are randomly assigned to one of three regimes differing in terms of the moment at which an audit is performed and, consequently, in the consequences of a negative audit outcome. These audit regimes apply to re-assessment applications. This application type is used for intensive care services with a long duration. In the first regime, applications are audited ex-post, so that the gatekeeper has no control over adjudged care services. In the second regime, applications are audited ex-ante, meaning that care can only be provided after the audit has been performed. Although ex-ante auditing leads to some delay in care provision and is costly to the care providers filing the applications, it also gives the gatekeeper control over adjudged care services through the possibility to deviate from requested care services in the assessment of needs. Finally, in the third regime variation between ex-ante and ex-post auditing, depending on the quality of recently audited applications of a particular provider, is introduced. Particularly, when application quality is below a certain level, ex-ante auditing is imposed. This allows the gatekeeper to target control specifically towards those care providers for whom this is needed most based on observed recent performance.

The results from this study show that increasing the degree of control by applying ex-ante auditing reduces the number of applications compared to the ex-post audit regime, although this effect is insignificant. Furthermore, when adding performance incentives (the third regime), the number of applications reduces even further. These effects can, to a large extent, be attributed to substitution with other types of applications that are not subject to the variation in the audit regime. Increasing the degree of control is also found to have a detrimental effect on the quality of applications, with relatively fewer audits concluding that the requested care services correspond to actual care needs. However, this result seems to be partially explained by assessors being less strict when audits do not have direct consequences for adjudged care services.

The fifth, and final, chapter provides a brief summary of the three studies that are part of this thesis and concludes.