

# Limited Consequences of a Transition From Activity-Based Financing to Budgeting: Four Reasons Why According to Swedish Hospital Managers

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## Abstract

Activity-based financing (ABF) and global budgeting are two common reimbursement models in hospital care that embody different incentives for cost containment and quality. The purpose of this study was to explore and describe perceptions from the provider perspective about how and why replacing variable ABF by global budgets affects daily operations and provided services. The study setting is a large Swedish county council that went from traditional budgeting to an ABF system and then back again in the period 2005–2012. Based on semistructured interviews with midlevel managers and analysis of administrative data, we conclude that the transition back from ABF to budgeting has had limited consequences and suggest 4 reasons why: (1) Midlevel managers dampen effects of changes in the external control; (2) the actual design of the different reimbursement models differed from the textbook design; (3) the purchasing body's use of other management controls did not change; (4) incentives bypassing the purchasing body's controls dampened the consequences. The study highlights the challenges associated with improvement strategies that rely exclusively on budget system changes within traditional tax-funded and politically managed health care systems.

## Keywords

activity-based financing, budgets, health care managers, health care delivery, qualitative research, Sweden

### What do we already know about this topic?

Replacing global budgeting by activity-based financing (ABF) of hospitals may increase cost-efficiency but may also dampen the incentives for quality-improving innovations.

### How does your research contribute to the field?

This is one of the first studies of the consequences of abandoning ABF for traditional global budgeting.

### What are your research's implications toward theory, practice, or policy?

Our results highlight how factors within and beyond policy makers' control serve to dampen the potential impacts of the changing financial incentive structure.

## Introduction

A persistent challenge for health care systems worldwide is to reconcile the tensions between ensuring timely and equitable access to high-quality health services within a limited budget. The reimbursement system is one of the tools that payers and policymakers use to influence the behavior of health care providers. In many health care systems, the core reimbursement system for hospitals is either some variant of activity-based financing (ABF) or global budgeting.<sup>1</sup> With prespecified reimbursement, both ABF and budgeting give stronger incentives to economize on resources per case than retrospective cost-based reimbursement.<sup>2</sup> Budgeting can be argued to offer

stronger incentives for cost containment than ABF models, as the budget allocation is independent of the actual volume of services, whereas the total reimbursement in ABF depends on the number and severity of cases. In practice, though, ABF

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models often include volume ceilings that mitigate the difference between the two modes of reimbursement.<sup>3</sup>

ABF and budgeting are basically systems for distributing resources with no explicit regard for the quality of delivered health services.<sup>4</sup> To incentivize the provision of high-quality services and stimulate improvements, payers have instead experimented with complementary reimbursement forms such as pay-for-performance (P4P)<sup>5,6</sup> or proactive pricing of certain interventions.<sup>7</sup> The ability of such tools to stimulate quality improvements is limited by their inherent top-down formulation; that is, the funding body can only incentivize quality improvements that they are knowledgeable about. In practice, P4P consequently tend to focus on narrow aspects of care such as compliance with specific guidelines.<sup>8</sup> The information asymmetries permeating principal-agent relations in health care,<sup>9,10</sup> not least with regard to technological developments, place severe restrictions on the ability of P4P and similar tools to stimulate quality improvement. It is therefore important that the core reimbursement system fosters, or at least does not prevent, improvements initiated bottom-up by health care professionals. How do the main modes of reimbursement, ABF and budgeting, compare in this respect?

Budgeting gives no explicit incentives for improvements, although it does not punish such initiatives either. The incentive for cost-efficiency per case in ABF systems may inhibit the adoption of better but more expensive technologies for a given case.<sup>11</sup> It does not incentivize innovations that transfer patients to lower paying categories (such as treating patients in outpatient care instead of inpatient care when medically warranted) either.<sup>12</sup> Another well-known concern with ABF is the incentive to discharge patients too early or to shun costly patients.<sup>13,14</sup> Furthermore, it has been argued that the emphasis on external rewards in ABF systems may devalue professionals' sense of autonomy and thus crowd out their intrinsic motivation for their work.<sup>15-19</sup> Taken together, these characteristics of ABF suggest that budgeting may be superior in terms of offering incentives for quality improvements without sacrificing cost containment.

The Swedish health care system offers an excellent context in which to explore this idea. The central government is responsible for overall health care policy and legislation, but the responsibility for financing and organizing health care is decentralized to 21 independent county councils. While all Swedish counties use DRGs to describe performance, only a subset of the county councils have ever replaced the traditional budgeting model for allocating resources to hospitals with an ABF system based on DRGs.<sup>20</sup> Moreover, almost 20 years in to the new millennium, most county councils with experience of ABF have returned to global budgeting. A similar trend has been seen in Denmark, where recent research has analyzed the discourse behind the return from ABF to global budgeting<sup>21</sup> and the development of profession-driven performance indicators within the new global payment regime.<sup>12,22</sup> The pendulum between ABF and budgeting follows the common trajectory of public sector reforms, where

each reform introduced as a solution to an identified problem creates new problems, generating a new round of reform.<sup>23</sup> However, there is a lack of evidence with regard to how the return to budgeting affects daily operations.

The purpose of this study is to explore and describe perceptions from the provider perspective about how and why replacing variable ABF by global budgets affect daily operations and provided services, based on a case study of a Swedish county council which introduced such a change in the hospital sector in 2012.

## Theoretical Framework

The reimbursement model is one way for the payer to control the behavior of providers. Whether a new reimbursement model will have the desired consequences depends on how it is implemented in practice. Reimbursement models do not operate in isolation but are interrelated with other management controls.<sup>24</sup> Controls should ideally be carefully chosen, aligned, and adapted to fit the context in which they are situated, including demands from different actors. In publicly funded health care, relevant actors are health care providers, patients, and governments, where the two latter are principals and the providers are agents.<sup>25</sup>

The implementation of a new reimbursement model is usually led by actors at the top of the organization. We therefore choose to employ an analytical framework using a top-down approach to study implementation. Specifically, we embed the analysis in Sabatier and Mazmanian's top-down framework (henceforth, the SM framework), which includes 6 conditions for effective implementation of a policy<sup>26,27</sup>:

1. The policy has clear and consistent objectives.
2. The policy is *supported by adequate causal theory*, in the sense that it is plausible that the policy, if fully implemented, would lead to the intended consequences.
3. *The implementation process is legally structured to enhance compliance by implementing officials and target groups.* This means that preexisting structures and routines are either compatible with, or modified to be aligned with, efforts to implement the new policy.
4. *Committed and skillful implementing officials.* With their considerable discretion over the services actually provided, physicians and midlevel managers who do not commit to the policy may impede the implementation process.<sup>28,29</sup> In this regard, the implementation of policies that clash with officials' own professional ethos may be particularly challenging.<sup>17</sup>
5. *Support of interest groups and sovereigns.* This is essentially condition 4 applied to actors outside the health care system. In the case of Swedish health care, patients constitute the key interest group and the national government is the only sovereign party to the counties.

6. Absence of changes in socioeconomic conditions which substantially undermine the political support or causal theory.

## Data and Methods

A comparative case study with an explorative onset was used to answer the following research question:

**Research Question 1:** How and why has the return from ABF to global budgets affected daily operations in hospital care?

We study 6 medical specialist areas in the Swedish county council Region Skåne (RS), which abandoned its ABF and returned to budgeting in the hospital sector in 2012. Employing a qualitative study approach, we are able to explore in what way reimbursement systems are interrelated with other controls and dependent on the context in which they are situated.<sup>24</sup>

### The Case

RS is responsible for the care of the 1.3 million inhabitants in Skåne. The bulk of specialized care is provided by 8 publicly owned hospitals, of which 1 is a university hospital located in the metropolitan area (Malmö-Lund). The council uses a purchaser-provider organization in which a politically appointed purchasing body, the Health Care Board (HCB), contracts with the health care providers. Each hospital was an independent provider organization until 2013, when the nonuniversity hospitals became subordinated to 2 newly created geographically based provider organizations. The university hospital still contracts directly with HCB.

The reimbursement system of hospitals in Skåne can be described as a pendulum swinging from a traditional global budget system to a partly ABF system and then back to budgeting again (Table 1). Notably, though, hospital staff have been reimbursed by fixed salaries throughout the period.

During the first era of budgeting (up until and including 2005), appropriations were based on the last year's budget and the purchaser did not specify how large care volumes the appropriations were supposed to cover. Each provider organization had responsibility of meeting the care needs of the population in its uptake area.

In 2006, the council adopted ABF in hospital care. In somatic care, prices for services involving physicians were defined using the Diagnosis Related Groups (DRGs) of the Nord-DRG system and a mix of national and regional weight lists.<sup>20</sup> For care types lacking DRGs (e.g., psychiatric care and treatments by nonphysicians), the region constructed internal prices aimed to reflect relative costs of involved professional categories. DRG classification was not a novelty in RS, as it had been used since the late 1990s to describe providers' performance and to regulate reimbursements for cross-hospital

patient flows. However, it was not until 2006 that ABF became a substantial part of the basic reimbursement for hospitals. During the ABF era, 40% to 60% of the providers' revenues were activity based up to a cap, specific for each provider organization. The cap was determined by a backward calculation starting from a detailed production plan developed by centrally placed medical advisors. The plan specified exactly the number of services in different categories that would correspond to the maximum payment. Notably, individual hospitals or clinics could claim compensation for compensation for production over and above their cap by taking on other providers' patients (and thus reducing the maximum compensation available to these providers). Thus, the degree of ABF was larger for individual hospitals or clinics.

In 2012, the region returned to global budgeting. According to leading administrators at the purchasing body, the main reason was a concern that feasible efficiency gains were not realized because providers had no incentive to choose less costly modes of care that would put patients in lower paying DRGs. A case in point is when providers may choose between treating a patient in an outpatient and inpatient setting. As inpatient DRGs are typically worth more than outpatient DRGs, providers had incentives to choose inpatient care even if there was no medical advantage of doing so.<sup>1</sup> By moving to a budget system in which providers' appropriations were not based on historical costs, this incentive could be avoided. Thus, the first budget was based on the care volume plans for 2011, with prices updated for 2012, and since then, the appropriations have simply been adjusted upward by an index together with some adjustment for intra-regional demographic developments.

To counter the risk that the abolishment of ABF would reduce hospitals' activity levels, the purchaser initially retained the production plans. The production plan for 2011 was used, with only slight modifications to account for medical developments. However, the 2011 production plan was soon perceived as dated and abandoned in 2015. Since then, the instruction to providers is simply that they are jointly responsible for meeting the care needs of the whole population in the region.

### Collection of Data

An inductive approach was used to collect, structure, and interpret both qualitative and quantitative data on how and why replacing variable ABF by global budgets affect daily operations and provided services in RS. Two sources of data were used:

- Semistructured face-to-face interviews with 6 mid-level managers of different medical specialist areas in 3 hospitals (Table 2). Criteria for selecting cases were (1) experience of both ABF and global budgets; (2) similar level of resources allocated to the specialty before and after the change of the reimbursement

**Table 1.** Description of the 3 Eras of the Reimbursement System.

Time period	ABF (% of revenues)	Responsibility of providers	Determination of reimbursement
First budget era (-2005)	0	Satisfy care needs of population in uptake area	Last year's budget appropriation
ABF (2006-2011)	40%-60%	Provide care specified in production plan	DRG-weighted production
Second budget era (2012-)	0	Provide care specified in production plan (2012-14) Satisfy care needs of population in whole region (2015-)	Budget appropriation for 2011, indexed upward annually with some additional adjustment for demographic changes

Note. ABF = activity-based financing; DRG = Diagnosis Related Group.

**Table 2.** Characteristics of Interviewed Midlevel Managers.

Medical specialty	University hospital	Professional background
Adult psychiatry	No	Nurse
Orthopedics	Yes	Physician
Surgery	No	Physician
Neurology	Yes	Physician
Nephrology	Yes	Nurse
General medicine	No	Physician

system; (3) specialties with different characteristics. Three respondents worked in the university hospital and the other 3 belonged to the 2 smaller provider organizations. A first round of interviews in May-June 2017 included respondents from psychiatry and 2 somatic specialties: orthopedics and surgery. A second round of interviews were conducted in April 2018 to also cover somatic specialties with chronic patients. The interviews lasted between 50 and 90 min. Both authors participated in all interviews, which were recorded and transcribed. The purpose of the interviews was to collect data about providers' perceptions of consequences of the change from ABF to budgets (Interview Guide in the appendix).

- Register data on care production and budget deficits from the county's own administrative registers and official statistics on costs reported to the Swedish Authority of Local Authorities and Regions.

### Analysis and Validation of Results

Conventional content analysis was used to analyze the collected data.<sup>30</sup> Both researchers participated in the analysis and interpretation of all empirical findings. The interview data were categorized into responses relating to cost containment, care production, quality of care, flexibility/room for innovations, and administrative burden. Register data and cost statistics were compared with statements about production and productivity from interviews. When the empirical material had been compiled, preliminary results were sent to

the interviewees for validation. One manager came back with minor suggestions for clarification of a quotation.

### Results

The perceptions about *how* the shift from variable PBR to traditional fixed budgets affected the daily operations were similar among the respondents from different medical specialties. The overall impression from the interviews, summarized in Table 3, was that the return to budgeting did not lead to the expected consequences for the main themes of interest.

The only theme for which at least some managers' perceptions were in line with expected consequences was cost containment. Three out of 6 managers had experienced that the new budget system embodied stronger incentives for cost containment, illustrated in the below quotes; the other 3 did not report any difference.

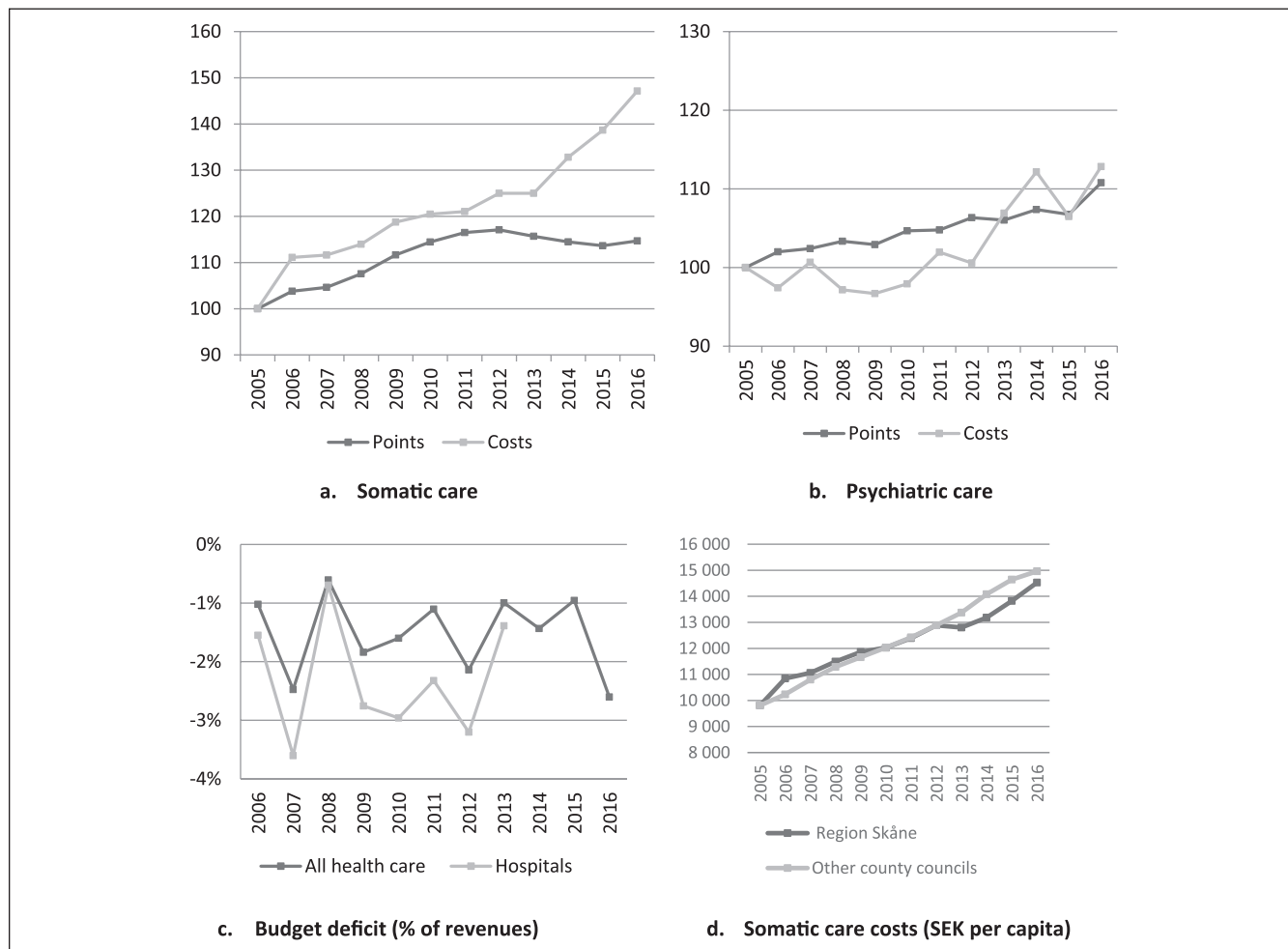
Before [in the ABF system], I knew that I would increase revenues if I accepted patients from other hospitals, but today I can't count on being reimbursed for admitting patients that are the responsibility of other hospitals. (. . .) Nowadays, we are supposed to balance the budget but we don't know what we are supposed to do. (Surgery)

Before, when we were reimbursed per case, we could be much more clear in our communication [with the purchaser] that "the reason why we're not solving the accessibility problem is that we are not allowed to, or cannot, do more than you have told us to do, and that is not enough to solve the problem." Therefore, they said: "This is your budget—now, solve the accessibility problem." The total reimbursement was still the same and thus the problem was still unresolved, but now they'd delegated the responsibility for solving the problem to me. (Orthopedics)

All respondents perceived the incentives for productivity as largely unchanged, as high accessibility and short waiting times are always highly prioritized goals of the purchasing body. Register data covering the whole hospital sector indicate that costs have increased and the number of DRG points (weighted sum of cases) have fallen in somatic care, while there has been a slow increase in both costs and production in psychiatric care (Figure 1a and b). Notably, these developments do not necessarily contradict our respondents'

**Table 3.** Overview of Perceptions of Consequences of Return to Budgeting From Activity-Based Financing.

	Incentives for cost containment	Incentives for productivity	Room for flexibility and innovations	Administrative workload
Adult psychiatry	Unchanged	Unchanged	Decreased	Unchanged
Surgery	Increased	Unchanged	Decreased	Increased
Orthopedics	Increased	Unchanged	Unchanged	Unchanged
Neurology	Unchanged	Unchanged	Unchanged	Unchanged
Nephrology	Unchanged	Unchanged	Unchanged/decreased	Unchanged
General medicine	Increased	Unchanged	Decreased	Unchanged



**Figure 1.** Diagnosis Related Group points (or the equivalent, for psychiatric care) and costs (2016 prices) relative to 2005 in (a) somatic and (b) psychiatric care. (c) Budget deficit in the hospital sector (only available up to 2013) and in the whole health care sector. (d) Per capita costs for somatic care in Skåne and the rest of Sweden (current prices).  
 Source: Region Skåne (production, budget deficit) and kolada.se (costs).

perceptions. While all our interviewees were aware of the general development, they only answered for their own medical specialties, which might have with different experiences than other specialties. Also, increasing costs does not imply decreasing cost control. As Figure 1c shows, the budget deficit as share of revenues has been stable over time, which accords well with the perception that the cost containment

pressure has been unchanged. Finally, the development of costs in the rest of Sweden has been very similar, apart from a temporary slowdown in Skåne between 2012 and 2013, which if anything suggests that the reform initially had a cost-containing effect (Figure 1d).<sup>ii</sup> The similarity across Sweden suggests that the growth in costs after 2012 is due to other factors than the reimbursement system.



When interpreting the falling number of DRG points in somatic care, which together with the cost growth indicates that productivity has fallen, it should be borne in mind that this to some extent is an automatic consequence of choosing outpatient instead of inpatient care—which was one of the goals of the reform. However, it also reflects that the effort put into registering diagnoses has fallen after the return to budgeting. Register data for orthopedics show that the average number of diagnoses per inpatient care case fell from a maximum of 2.9 in 2011 (the last year with ABF) to around 2.7 thereafter. That is, the development of “true” DRG points may be more favorable than Figure 1 suggests. In line with this, all interviewed managers in somatic care said that they put less pressure on workers regarding diagnosis registrations because the connection between registrations and the level of allocated resources had been removed. This was in fact the only dimension in which managers believed that coworkers involved in clinical work had been affected by the return to budgeting. Apart from this, the theoretically greater room for flexibility and innovations in a budget system had not been realized, according to the respondents. Some even considered the room for flexibility and innovations to have *decreased* (Table 3), as the opportunity to generate extra income in the ABF model had been abolished.

It is rather more of micro management today (. . .) They [higher-level managers and the purchaser] are monitoring resource use, staff size, care volumes in both outpatient and inpatient care. There are performance indicators everywhere in this new system. (Surgery)

If I make a change on April 1th then I will not get compensation for it. In the earlier model, we could in a sense get compensated because if we worked a little more, then we could earn a little more and then that could be sufficient to finance something else. So I feel that that is a limitation in the present [budget] model. (Psychiatry)

The perceptions about *why* the shift from ABF to budgeting had had limited consequences for daily operations were also similar among the respondents. These perceptions can be sorted under 4 themes.

1. *Midlevel managers dampen effects of changes in the external control.* The midlevel managers explained that patients' care needs do not change as the reimbursement system change and that their first priority is to meet these needs. Therefore, they had developed strategies to cope with reoccurring changes in the external control to give coworkers a feeling of stability in the organization and enable them to continue their daily work with patients as usual. Thus, midlevel managers act as umbrellas, filtering the information flows between the higher level managers and the health care professionals involved in clinical work.

I pretend that we are still in the ABF system. I know that we're not, but I pretend that we are in order to provide good healthcare

services. That is, our mission is to treat as many patients as we can within the budget constraint. But there are no incentives in this system. It's just me pretending that there is. (Surgery)

I've always believed in this [ABF] system. So, we have continued to work in its spirit. (. . .) I think it will come back. Moreover, I think it provides sound incentives. (General medicine)

To understand our daily operations [in the ABF system]: we mostly concentrated on the volume requirements (. . .) we didn't care a lot about the DRGs. Therefore, when it became official that “your reimbursement is no longer based on DRGs,” we thought “OK, but was it ever really?” There were still volume requirements and then we could continue with the production plan also under the new budgeting system. [Since the purchaser has abolished the volume requirements] we have continued to use a production plan. (. . .) Otherwise, we have nothing to relate to. So, now it is our own management tool. (Neurology)

2. *The actual design of the different reimbursement models differs from the textbook design.* The mid-level managers described that they did not perceive the change of the reimbursement system as very drastic. Our review of budget documents confirms the views among midlevel managers: The way that Region Skåne operationalized the different payment systems in practice did not fully correspond to the design of the different payment systems as described in textbooks. In the ABF system, the variable payment never accounted for more than 60% of payment and the volume ceilings in the ABF were very close to the levels that would have been achieved anyway. In turn, the effectiveness of the return to the global budget system was hampered by the continued application of specified care volume requirements pushing for a similar level of activity as before. Thus, both the variable ABF and the traditional fixed budget are best described as mixed models.

When was there a shift, really? In a way, there was not. Taking it to the extreme, there was never a shift because the ABF was never really a variable reimbursement. It was a budget; of course it was constructed based on the volume requirement, but it was almost as if they had been counting backwards to arrive at that budget. (. . .) I don't think that it ever was a variable system. (Neurology)

3. *The purchasing body's use of other management controls did not change.* As the abolishment of ABF was coupled by continued strict monitoring of production, the midlevel managers did not view autonomy as having increased following the reintroduction of global budgets. They explained that the monitoring of different indicators related to production and adherence to budget targets had remained fairly stable, or even increased, during the study period. The perception was that the performance measurement systems introduced in the 1990s had steadily

increased and been refined ever since, irrespective of the design of the reimbursement model. One of the interviewed midlevel managers expressed a view that the high-level managers did not dare to give up their control:

But they [the purchasing body] don't dare to give us that freedom: "here's your budget, it's up to you how to spend it." They are afraid we would lay down operations as response (. . .). You don't feel free, and you feel that as the budget deficit increases, they try to find more control mechanisms. I think they would have followed up all budgets weekly if only the IT systems would allow for it. (Surgery)

4. *Incentives bypassing the purchasing body's controls dampened the consequences.* Although the responsibility for organization and provision of health care is decentralized to the 21 county councils, the central government is also involved in health care governance in Sweden. Many respondents mentioned especially one central government policy that was in place 2009–2014, a targeted national government grant aimed at reducing waiting times, as one explanation for the continuously strong focus on keeping up productivity during the ABF era as well as in the new budgeting era. The perceptions among the midlevel managers was that the focus on reducing waiting times—a long-standing issue in Swedish health care—was not consistently aligned with the design of the reimbursement model in RS. More generally, managers described a frustration about shifting political priorities in connection with the elections every fourth year.

## Discussion and Conclusions

Ideally, the reimbursement system gives health care providers incentives to act in the interest of the funding body. In reality, the reimbursement system will inevitably lead to unintended consequences and reward behavior that is not in line with all overall objectives.<sup>2</sup> Our interviews reveal that the theoretically greater flexibility and potential for cost containment in a global budget system compared with an ABF system need not be realized in practice. Several factors serve to dampen the impact of changes to the reimbursement system on the overall incentive structure.

At the midlevel managerial level, the impact is dampened by 2 factors. One is that providers' prime source of motivation is the desire to help their patients and that patients' needs are largely uncorrelated with the design of reimbursement system. Thus, the fourth condition for effective implementation in the SM framework—committed officials—was not fulfilled. The patient-centeredness of medical ethics is one reason why providers view patients as a more legitimate principal than the payer. Another reason may be that as salaried employees, managers and health care professionals have no

personal financial motivation to comply with the incentives targeting the hospitals. Furthermore, the lacking commitment may relate to the repeated budget deficits, which suggest that the budget constraint does not bind for all hospitals and that managers may rationally overlook the reimbursement system. The second dampening factor is that midlevel managers actively reduce the uncertainty for health care professionals by filtering and absorbing changes. This result mirrors those of a study from another Swedish council, which found that midlevel managers translate and adapt incentive schemes to better fit health care professionals' values.<sup>31</sup> Managers develop strategies to cope with reoccurring changes in the external control to give coworkers a feeling of stability in the organization and enable them to do their daily work with patients. Hence, organizations may develop a resistance to change when they operate in a constantly changing environment.<sup>32</sup> To affect the behavior of other members of the organization, it is important that managers signal that the change is there to stay and takes precedence over other controls in case of conflict with other parts of the control package.<sup>29</sup>

Another potential reason for the limited impact of the reform relates to the third condition in the SM framework, that is, other structures governing the context in which the policy is implemented. In our case, other parts of the management control package,<sup>24</sup> particularly the use of performance monitoring, served to reproduce a similar overall incentive structure as before, even in the face of an apparently big change of the *financial* incentive structure and planning of activities. In a setting where governance and management philosophies are still firmly grounded within the New Public Management (NPM) paradigm,<sup>33</sup> a reform of the reimbursement system per se is not sufficient to affect daily operations. This is perhaps best illustrated by the continued detailed monitoring of volumes and DRG points. By contrast, earlier research on the *introduction* of ABF in another Swedish county council in the 1990s, the decade when NPM first emerged as a paradigm in Sweden, documented several theoretically expected results (shorter length of stays and lower self-reported loss of autonomy among physicians).<sup>34,35</sup> In our studied region, the introduction of variable DRG-based payment in 2006 was not that drastic for providers because demands for increased monitoring of performance was introduced already in the late 1990s. Similarly, the continued focus on monitoring of performance made the reintroduction of fixed budgets in 2012 less dramatic.

Another plausible reason for the limited impact of the reform is that the pendulum between activity-based and fixed reimbursement systems did not swing all the way. The stylized examples of pure reimbursement models in textbooks typically focus on solutions to one problem, whereas in reality, different and possible conflicting objectives are often pursued at the same time, for example improved cost containment while maintaining a high production. Thus, in practice mixed reimbursement models are often adopted,<sup>2,3</sup> and the RS case is no exception. The consequences of changing

reimbursement models cannot be expected to be as drastic when shifting between different mixed models as compared with implementing pure reimbursement models. In a nutshell, the first and second conditions in the SM framework were not fulfilled, as the objectives of the reform were inconsistent and the causal model underlying the policy therefore inadequate. Finally, our results indicate that the fifth condition in the SM framework, support of sovereign actors, was not fulfilled. The incentives used by the sovereign central government to influence the behavior of hospitals were formulated without regard to the counties' internal incentive structures, and turned out to be more in line with RS old ABF system than with its budgeting model.

Notwithstanding the limited effects perceived by our respondents, it still seems as though the abolishment of ABF did have some concrete consequences. For instance, the return to budgeting was followed by falling productivity, related to a change of practice regarding inpatient versus outpatient care and to decreasing emphasis on diagnosis registrations. These are all examples of theoretically expected developments, as budget allocations are independent of the volume and severity of cases treated, contrary to what is the case in ABF systems.<sup>2,3,11</sup> Furthermore, our results highlight that although the intention behind the reform was to stimulate flexibility, certain aspects of autonomy and flexibility that were present in the ABF system were lost in the new regime. This is most clearly illustrated by the positive views on ABF among some respondents, who had appreciated the possibility to finance own initiatives by increasing production during the ABF regime (although it should be stressed that, at the regional level, this increased production was financed by other clinics). The result that professional autonomy is not unambiguously higher with budgeting may be linked to the literature on external incentives and intrinsic motivation.<sup>15-19</sup> The result fits well with the view that lack of autonomy is central to intrinsic motivation<sup>16</sup> and that agents' interpretation of the external incentives determine whether these will crowd out intrinsic motivation.<sup>15</sup>

Our results come with some limitations. First of all, the interviews took place several years after the return to global budgeting. Thus, it is possible that managers' memories are biased or incomplete. On the contrary, conducting the interview soon after the change might have left too little time for anything to change. On balance, we believe that our interviews capture the most salient impressions managers have of the different systems. Another limitation is that the findings rely on the experiences of a small and self-selected sample of managers at one level of the management chain in one county council. These views might not translate into other contexts. In particular, one might expect stronger responses if the financial incentives directly target the physician's income, although a number of studies from different contexts indicate that hospitals may respond to financial incentives even if physicians are salaried.<sup>iii,36-40</sup> Next steps would be to conduct a similar study in additional counties and to include more levels of the management chain.

## Appendix

### Interview Guide

- What is your role in the organization?
- Describe the ABF model and the new budget model.
- Describe the process when the new budget model was introduced (why, how, dialogue/trust in process).
- Describe pros and cons with the two models.
- What are the consequences of the new model . . .
  - o For you (what is controlled, degree of being controlled, trust)
  - o For professionals at the floor (what is controlled, degree of being controlled, motivation, trust)
  - o For patients (with respect to overarching goals of care)
- Are you well informed about the components of the overall management control package in the region?
- How do economic incentives compare to other parts of the management control package (MCP)?
- Describe the components of the overall control package (especially monitoring). Changes over time in degree of monitoring and administrative burden?
- Except for the reimbursement system, what other components of the MCP have been changed during this period?

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### Notes

- i. Interview with Charlotte Karbassi, head of the budget office, in May 2017.
- ii. The figure shows per capita costs. Total costs have increased more in Skåne, but only in par with the growth of the population size. The picture is similar in psychiatry.
- iii. Similarly, Swedish primary care providers seem to respond to financial incentives, even though general practitioners are salaried.<sup>41-43</sup>

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