EXECUTIVE SUMMARY

The Republic of Macedonia is undertaking sweeping reforms of its health sector. Funded by a World Bank credit, the Health Sector Transition Project (HSTP) is a comprehensive reform program that seeks to improve the efficiency and quality of Primary Health Care (PHC) by significantly strengthening the role of the market in health care provision. On the supply-side one of the key HSTP proposals is to implement a capitation payment system for PHC physicians. By placing all PHC physicians on productivity-based contracts, these reforms will effectively privatize all primary health care (PHC) provision. In addition, the Ministry of Health is considering the sale of public PHC clinics to private groups, indicating the government’s commitment to marketization of health care provision.

Macedonia is in a unique position to develop a new role for the private sector in health care provision. The private provision of outpatient care was legalized soon after independence in 1991 to help meet demands of patient choice and physician self-determination. While private physicians account for less than 10% of all physicians, most provide primary care and 22% of PHC physicians in Macedonia are in private practice. If the reforms are fully realized, all PHC physicians – over 40% of all physicians – will be financially responsible for their clinical practices.

This dissertation draws on the experience with the partial privatization 1991-1997 and offers significant lessons for the ongoing reforms. I seek to inform the reform debates on two levels. At a sectoral level I evaluate the policy environment that governs the private sector, both currently and that proposed by the reform program. This component of the research addresses how the reform program can structure policies that adequately support and regulate a private health market in a transition economy. At the level of individual physicians, this dissertation examines the performance of physicians under the existing private/public system, specifically the effect of payment incentives on physicians’ decisions in treating patients. By evaluating factors influencing physician productivity and resource utilization this will provide input to the design of PHC physician incentive and payment systems.

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1 The current UN designation is The Former Yugoslav Republic of Macedonia; I use the Republic of Macedonia and Macedonia throughout this study.
BACKGROUND

Similar to other post-socialist states, the roots of the efficiency and quality problems of the Macedonian health systems lie in the heritage of the Yugoslav health care system and broader economic structure (Istenich, 1995). The Yugoslav planning system shaped policies towards the health sector in general, and health care facilities that had pervasive effects on financing and delivery, down to the level of physicians’ clinical practices. It is this heritage that reformers are struggling with today.

The health institutions of the former Yugoslav system are largely unchanged and are still financing or providing services in Macedonia. Health care financing is organized by the Health Insurance Fund (HIF), based on Macedonia’s segments of the SFRY Social Insurance Fund. Service provision has likewise remained unchanged. The dominant form of provider organization is the municipality-based Medical Center which typically consist of a general hospital with stand-alone clinics providing specialist outpatient services. Medical Centers also administer Health Centers that provide in large urban multi-department clinics and smaller urban ambulatory clinics. Rural clinics also fall under Health Center management. All physicians in the public sector are paid salary, which for primary care physicians runs $300 to $500 per month, about 20 – 50% of private physician incomes.

POLICY ISSUES

The Macedonian reforms are initially targeted at improving delivery of PHC and are aimed at both existing public and private primary care physicians. Given the status of primary care in Macedonia, especially in public clinics, capitation could have a large positive impact. In addition to making patient satisfaction relevant to public physicians, capitation may also improve quality by raising the pay and low prestige of PHC, thereby encouraging better doctors to choose PHC as a career. It may also have a large initial effect in efficiency if it allows providers to focus on true costs of practice, such as referrals to more costly specialist care. Finally, public primary care physicians receive the same salary, regardless of volume or quality. With the reforms, physicians in public clinics will be rewarded for higher productivity. This should tend to level pay and also enhance competition between the two sectors.
Due to the nature of transition economies, proper payment incentives and administrative controls are not sufficient for successful privatization. In introducing market forces to health care provision in transition economies, reform programs must build market institutions to serve as enabling frameworks for the financial incentives that encourage efficient decision-making at an individual level. For example, problems at the level of the national economy, such as the ailing banking system, seriously affect the ability of physicians to finance capital improvements under privatizing reforms. At a lower segment of the health sector, referral prohibitions established by municipal Medical Centers thwart attempts to increase competition between physicians.

The issues that this dissertation addresses exist at two levels. First are the policies governing private markets in the health sector; the development of effective market institutions to support the private sector. Second are the physician-level responses to incentives that are designed to control market failures and to encourage higher quality and efficiency.

**Sector-level policies**

Systems that enforce financial discipline, effective legislative and regulatory mechanisms, and protection of private property are insufficiently developed in the health sectors of transition economies.

In Macedonia, policy toward private provision has, as in other countries, been implemented haphazardly and often with little consistency in different regions of the country. Private sector policies and others governing behavior within the public sector, are often not currently addressed by the reform program with negative consequences for competition, efficiency, entry and exit, and integration of the health system. For example, public doctors are shielded from competition by Medical Centers that deny private doctors hospital privileges. This policy may also inappropriately reduce hospital referrals by private doctors. And, in most municipalities, private doctors also cannot receive referrals from the public sector. These referral policies counter the advantages of productivity-based payment systems under the reforms. Furthermore, they continue to block integration of service provision across sectors, reducing efficiency and quality of care.

Entry and exit in the private market is largely controlled by the HIF, which is responsible for granting, administering, and revoking contracts with physicians to provide care reimbursed by
the Fund. Thus the size and growth of the private sector are largely at the discretion of the Director of the HIF. Furthermore, actions at lower levels of the HIF also complicate private decision-making such as retroactive changes in the list of reimbursable services made by HIF branch offices.

As a final illustration of policy barriers to reform, financing capital investments in both sectors face important and different constraints. Public clinics are characterized by poor structural quality, generally lacking adequate facilities and even basic equipment. This lack of investment stems from the historic lack of investment in PHC in the former system and is exacerbated by chronic budget deficits suffered since independence. In the private sector, physicians rely on self-financing since the banking system, like many poorer CEE countries, is in poor condition and places onerous terms on individual borrowers. This results in a selection effect such that many private physicians are relatively wealthy or able to raise funds from, typically, managers of large enterprises. Those that would rely on the banking system either establish poorly equipped clinics or are effectively precluded from private practice. Without addressing these related problems, efforts to expand private PHC will be seriously challenged.

**Provider-level incentives**

Private doctors, who bear financial risk for their operations, have incentives to retain FFS reimbursements and treat patients in their offices. To increase income, they may increase fees, increase patient loads, improve patient-perceived quality, and de-emphasize preventive and public health services. Unregulated, such a system can lead to supplier induced demand. Conversely, the lack of quality- and efficiency-based incentives in the public sector may also lead to inappropriate referrals and unnecessary test-ordering. Additionally, the higher incomes in the private sector are motivation to leave public practice, and may lead better physicians to abandon public clinics. The PHC reform program seeks to solve these problems by reorienting incentives for efficient and high-quality of care in both sectors with a productivity-based payment system for all primary care doctors.

Regardless of payment approach implemented, capitation or FFS, each faces the same fundamental design issues. First, in either capitation or fee-for-service, physician income and ultimately the strength of the incentives depend in large part on the number of patients seen, or
physician utilization. The primary issue, then, is to design productivity-based performance incentives with an adequate patient load, while also balancing the need for reasonable physician income and the realities of the HIF budget. Second is the issue of eligibility for the new payment system. Due to geography or the nature of the practice, some physicians may not have adequate patient volume to generate a livable income, for example those in rural clinics or gynecology departments. Finally, a central theme of the payment reforms is to encourage the efficient use of resources. The degree to which individual physicians are financially responsible for their practices – lab costs, referrals, staff, even facility costs – will have important impacts on the ability of reforms to improve efficiency.

**RESEARCH APPROACH**

A central argument of this study is that behavior of physicians is determined not only by the different payment structures in the two sectors but also by other market and regulatory incentives. Further, that in a transition economy such as Macedonia, reforms to physician payment systems will not achieve the goals of reform unless the broader market and regulatory issues are addressed.

To illuminate these embedded issues, I adopt a two-part research plan. First, at the sectoral level I address how the reform program can structure policies that adequately support and regulate a private health market in a transition economy. This is done by a qualitative analysis of the PHC policy environment – the rules, regulations and procedures that govern PHC provision. This analysis identifies policy failures and other barriers to effective functioning of the PHC system. It also provides essential context to interpret results of the second component of the analysis.

In this second part of the analysis, I use cross sectional data from a survey of physicians to understand how physicians respond to the existing incentive structures of the private market in terms of workload and resource use. I model physician production as a jointly determined process of workload and input utilization. Such a formulation acknowledges the endogeneity of input and output and, more important, allows the straightforward estimation of the demand equations for three key inputs: physician time, capital equipment, and consumable materials.

In the first step, physician output level is conditioned on individual, patient, department, and market characteristics. Concurrently, utilization of inputs is conditioned on predicted output
level and individual physician, patient and department characteristics. Incentives for physician effort are captured by a variable identifying public/private practice. Scale and scope effects are measured by the number of nurses per physician in the physician’s department and the number of specialty departments in the physician’s clinic. Control variables include the standard measures of physician characteristics, patient case-mix and market characteristics. A significant innovation in this work is the inclusion of a physician skill measure in the individual characteristics. Derived from scores on written case simulations, or vignettes, this skill variable provides information on the process quality of care.

Together, these two analytic approaches assist the development of policy options that ensure the privatization reforms of primary care succeed in improving the overall quality and cost-effectiveness of the Macedonian health care system.

**SUMMARY OF FINDINGS AND RECOMMENDATIONS**

The analysis finds evidence of productivity benefits among existing private PHC physicians. In addition, these physicians also respond to the incentives of private practice by having available higher levels of medical equipment, an effect consistent with higher patient satisfaction. However, the overall findings of this study show that neither the existing policy environment nor that envisioned by the reform program allow market forces to significantly change physician practices in a post-socialist country. Indeed, physician responses to certain policies, such as arbitrary restrictions on productivity and referral prohibitions, suggest that these policies have a negative impact on efficiency and the quality of care. Moreover, the public sector delivery system is insulated from private sector competition by a web of policies and practices at all levels of the health sector. If left in place, this policy environment will dilute the ability of payment reforms to improve the efficiency and the quality of care.

These findings should be viewed as inputs to the process of developing effective, implementable reform policies. The following recommendations help provide a starting point for designing future policies toward health care privatization.

**Payment Incentives** The difficulties of designing physician payment schemes are well illustrated by the Macedonian experience. Results of the quantitative analysis are consistent with incentives for service overprovision and the relatively low referral rates of FFS payment in the private
sector. On the other hand, salaried public sector physicians have much higher referral rates than private sector colleagues, raising concerns over the cost of secondary care. Relative to private PHC physicians, public physicians also provide fewer services per patient as workloads rise. Neither condition is optimal. The main focus of the reforms – capitation – may not be optimal either as it tends to create incentives for underprovision of services and relatively higher referral rates.

Creating incentives for cost reduction by making physicians financially responsible for their practices is at the heart of the capitation-based reforms. This is a radical departure from the long-standing norms in public clinics; instituting unambiguous financial responsibility for all inputs to patient care will be essential to the improvements of efficiency and quality envisioned by the reforms. Briefly, financial responsibility would encompass nurses, office space, capital equipment, laboratory services, supplies and medications. Tracking input use in each of these categories at the level of individual physicians may be beyond the capacity of Health Center information system in the near future. In the short-run, department- or even clinic-level fundholding schemes may be a solution. Similarly, controlling the incentives under capitation for high referrals to secondary/in-patient care and laboratory services may stretch the capacity of Health Center information systems, especially if use of these resources is tracked at the individual physician-level. However, individual utilization reviews of referrals may be adequate in the near term.

An issue intimately related to the payment system is improving productivity. Measured as patient visits per week, physician utilization is uniformly low in Macedonia. Raising it could increase patient access and, potentially, quality of care for a greater part of the population. Physician workloads are arbitrarily limited in the existing private sector. Low motivation and lack of performance-based incentives hinder productivity in public clinics. Introducing performance-based incentives and permitting competition could also boost productivity and quality of care.

Clinic Resources The reforms seek to reorient the disparate financial incentives in the public and private sectors by allowing all physicians to retain the difference between their productivity-based payment and the costs of treating patients. However, under current reform proposals, financial responsibility for, and access to, clinic resources is not well defined for physicians in
public clinics. Furthermore, the existing system has created clear disparities in levels of capital and human resources in public and private clinics. Thus, in planning for the reforms, there are two key areas of concern over capital equipment and other clinic resources.

The first of these stems from the actions of the HIF to restrict the size and competitiveness of the private sector. Under the reforms with all PHC physicians under contract, the HIF may still have similar control and further, this behavior may shift to Health Center management as the group that controls resources required by physicians. An extension of the current situation in the private sector to the public sector could distort the incentives intended by the payment reforms. For example, if publicly-owned Health Centers remain the single dominant PHC clinics in each municipality, though they are undercapitalized, clinic management could potentially charge above market rates by restricting physician access to equipment and other resources. To ensure that the reforms create incentives for efficient and appropriate resource use, contracts should be written between physicians in public clinics and clinic management. Such contracts should specify payment by physicians for equipment utilization, laboratory use, and use of nursing staff and other non-physician personnel. These contracts define rights and responsibilities for physician access to the inputs of patient care, and should be seen in the same light as the contracts between physicians and the HIF for the output of patient care. The viability of these contracts would be improved if clinic ownership were defined explicitly. Options include contracting operation of public clinics, or their sale, to private groups.

Secondly, public clinics have much lower levels of capital equipment than private PHC clinics. This situation is due largely to an historic lack of funding which unfortunately promises to be a chronic condition for years to come. Improvements in capital investment in public clinics are a necessity. Increased grant aid is a possible source of funding as are mandated set-asides from physician revenues that are earmarked for capital improvements. These longer term solutions aside, mobilizing private resources may be the only option to quickly boost capital investment. However, ownership and management of public clinics are barriers to this. Contracting for the operations, or the sale, of public clinics may provide adequate incentives for private investment in capital equipment. There is a question whether the banking system in Macedonia could generate enough funding to bring Health Center capital equipment to adequate levels. One
option would be to follow the Czech privatization model which subsidized loans for capital investment based on the proceeds of the sales of formerly public medical facilities.

**Referral Policies** There are a number of restrictions on access to care in the current PHC system. Private physicians are denied hospital privileges and access to patient records. Also, public sector physicians are prohibited from referring to private physicians. The main concern here is that this may degrade the continuity of and limit efficiency gains possible if care in both sectors were more closely integrated.

To promote effective competition for services and improve the continuity of care, referral practices and hospital privileges should be liberalized. In place of blanket restrictions on referrals and privileges, other methods can be implemented to regulate referrals to secondary and in-patient care. These include withholds and other financial incentives for meeting referral goals, pre-admission screening, and mandatory second-opinions for hospitalizations. Additionally, to counter the referral incentives of either FFS or capitation, physician referral practices must be regulated for both over- and under-referrals.

**Education Policies** The Macedonian health system inherited a number of educational policies that are in transition. In addition to reducing the number of medical school enrollees already begun, this study highlights two other areas for increased attention in the reform program. First, the importance of improving physician skill was demonstrated by evidence that more highly skilled physicians make a trade-off between numbers of visits and quality of care and also that better physicians are more restrained in the use of medications. Both point to the potential value of continuing medical education (CME) in promoting better care and costs-savings in primary care settings. CME will help boost the quality and status of PHC, as will implementation of a Family Practice specialty in medical school as planned by the reforms.

The findings of this study also reflect the nature of the current graduate medical education system. Medical graduates compete for the few positions in the public sector, partly due to the benefits of completely subsidized graduate specialty training. Once trained, many graduate specialists then depart the public sector for the more lucrative private sector. Under the reforms, distinctions between private and public practice will diminish and thus the incentives to leave publicly-owned and operated clinics. Nonetheless, revisiting the policy of fully subsidized post-
graduate education may be warranted once the reform policies for both PHC and secondary-care specialists are finalized.

_HIF and MoH Regulations_ Contracts for professional services between individual physicians and the HIF are the basis of existing private sector PHC provision. Similar contracts for professional services will be central to the reforms. Unfortunately, current HIF procedures for issuing and managing physician contracts are fragile and unreliable. To ensure the function of the health system the HIF and MoH should consider three elements of administrative reforms. First, procedures for granting and administering contracts must be standardized, made transparent, and disseminated to physicians. Physician participation in the establishment and evolution of these procedures may increase acceptance of rule changes. Second, grievance procedures for HIF contract actions should also be implemented that are transparent and less costly than existing procedures. This could be along the lines of the former grievance board within the HIF, separate from the costly and still-transitioning legal system. Finally, improving the overall level of structural quality in the PHC system will be a long process. Developing comprehensive quality assurance programs throughout the health sector will be a part of this process. This dissertation examined only one small aspect of government’s role in quality assurance, standards enforcement. Equitable enforcement of quality standards by both the MoH and HIF will help improve quality of care throughout the system by encouraging both private and public clinics to meet facility quality standards.