Bismarck meets Beveridge on the Silk Road: coordinating funding sources to create a universal health financing system in Kyrgyzstan

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Abstract Options for health financing reform are often portrayed as a choice between general taxation (known as the Beveridge model) and social health insurance (known as the Bismarck model). Ten years of health financing reform in Kyrgyzstan, since the introduction of its compulsory health insurance fund in 1997, provide an excellent example of why it is wrong to reduce health financing policy to a choice between the Beveridge and Bismarck models. Rather than fragment the system according to the insurance status of the population, as many other low- and middle-income countries have done, the Kyrgyz reforms were guided by the objective of having a single system for the entire population. Key features include the role and gradual development of the compulsory health insurance fund as the single purchaser of health-care services for the entire population using output-based payment methods, the complete restructuring of pooling arrangements from the former decentralized budgetary structure to a single national pool, and the establishment of an explicit benefit package. Central to the process was the transformation of the role of general budget revenues – the main source of public funding for health – from directly subsidizing the supply of services to subsidizing the purchase of services on behalf of the entire population by redirecting them into the health insurance fund. Through their approach to health financing policy, and pooling in particular, the Kyrgyz health reformers demonstrated that different sources of funds can be used in an explicitly complementary manner to enable the creation of a unified, universal system.

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Introduction

Policy choices in health financing, particularly for low- and middle-income countries, are often reduced to a decision on whether progress towards universal coverage can best be achieved through a social health insurance (SHI) system (often labelled as the "Bismarck model" after the late 19th century German chancellor who enacted social legislation to insure workers against serious risks including health) or a general tax-funded system (often labelled as the "Beveridge model" after the designer of the British National Health Service). Advocates of SHI have suggested that in low-income countries, insurance coverage can expand from the formal sector to the entire population, as it has done in many countries that followed the Bismarck model such as in western Europe, Japan and the Republic of Korea.[1,2] Critics of this view[3,4] have argued that introducing SHI in economies in which most of the population is in the informal sector runs the great risk of widening existing disparities in access to care and financial protection. Kyrgyzstan's experience with health financing reform since 1997 provides an example of how one low-income country introduced an SHI fund but did not suffer the potentially negative consequences for equity that had concerned critics. The Kyrgyz experience illustrates the importance of thinking about health financing policy in functional terms[5,6] rather than in terms of historical models imported from western Europe.

Erosion of coverage

As with most of the countries of the former Soviet Union, Kyrgyzstan suffered an extreme fiscal contraction in the first half of the 1990s. By 1995, total public revenue as a share of gross domestic product (GDP) fell to 15% from an estimated 41% in the former Soviet Union in 1989.[7] This had severe negative consequences for the ability of the government to spend on health, especially in the context of a GDP that was also contracting (by the late 1990s Kyrgyzstan was, and remains, classified as a low-income country by The World Bank). It is estimated that by 1998, the real level of government health spending in Kyrgyzstan was about half that of 1991.[8] While health care was still ostensibly free of charge for the population, early household surveys confirmed what had become apparent to both providers and patients alike: informal out-of-pocket payments had become a substantial barrier to care and a great financial burden for households that chose to seek care.[9,10]

Behind this was not only the fall in public spending but also the rising costs of the inherited health system. The health system of the former Soviet Union was characterized by heavy reliance on physical infrastructure and specialization.[11] It was possible to sustain this in the context of the high revenues that the former Kyrgyz Soviet Socialist Republic received and subsidized prices for inputs such as medicines and energy. In the 1990s, however, the decline in government revenues and the

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increase in prices made the large infrastructure unsustainable: a large share of public spending on health was devoted to fixed costs, leaving very little to pay for treatment inputs such as medicines and supplies. In 2000, for example, over 21% of state budget health spending in Kyrgyzstan was spent on utility costs.[12] This reflected a health financing system characterized by incentives designed to meet the "needs" of the physical infrastructure, rather than the needs of the population.

Provider payment mechanisms were based on input-based norms formulated into strict line-item budgets reflecting historical patterns. The more beds that a hospital had, the more staff positions it was allowed to have and the greater budget it received. There were 18 input categories used for budgeting such as personnel, drugs and utilities. Managers could not re-allocate across line-item categories if the need arose and so unspent resources were returned to the government budget. In addition, the former Soviet Union health (and health financing) system was fragmented, with each level of government funding and managing its own decentralized health system. Excess capacity was particularly marked in urban centres, where both city and provincial (*oblast*) facilities existed.

Health financing reforms

It was in this challenging context that health financing reforms were introduced. Late in 1996, the government announced that a law to introduce a new mandatory health insurance fund (MHIF) was to become effective in 1997. There were fears that this would actually worsen an already fragmented system by adding an insured/uninsured split and this led to delays in implementation. The strategy developed in response was called the "joint systems approach", whereby the MHIF and the *oblast* health departments would use a common system for information and accounting. A critically important technical step for the future transition to a universal system was the establishment of a single hospital information system for all patients regardless of their insurance status. Another important decision was made by the management of the MHIF: it was decided that, rather than attempt to fully fund a comprehensive insurance package for the insured population, they would instead simply top up the existing budget flows to public hospitals. The payment mechanism was different, however: case-based payment for inpatient care and capitation for primary care.

The MHIF was funded by a 2% payroll tax on employers and small amounts of transfers from the pension and unemployment funds. The payroll tax rate was set at this low level for several reasons: payroll tax rates for social contributions (mostly pensions) were already very high at 37% of wages;[13] the country's population is predominantly rural, working in agriculture but without regular cash income; and there is a sizeable informal economy. Hence, the health insurance contribution was designed as a complementary revenue source. The insured population included employees, pensioners and those in receipt of social benefits. In total, this was approximately 30% of the population by 1999. In 2000, children aged less than 16 were added to the insured category, funded by a direct transfer from the central state budget. This brought the insured population to about 70% in 2000.[14] In that year, about 90% of public spending on health came from budgetary sources allocated based on historic patterns and 10% from MHIF allocated based on capitation and case-based payment. For general hospitals and primary care providers (the provider levels contracted by the MHIF) only, however, the MHIF was responsible for about 18% of total allocations from public sources.[15]

The Single Payer System

While the MHIF made substantial progress in developing its information and payment systems, the previous health financing system co-existed with it, with each level of government allocating budgets to its own facilities on the basis of historical norms. Hence, while the bit of extra money provided considerable relief at the margin for providers and patients (particularly in the case of medicines, for which MHIF payments became the main source of funding), the underlying structural fragmentation problems of the system were not addressed. This began to change in 2001, however, following a government decision the previous year to eliminate the *oblast* level of several ministries, including health. Faced with the possibility that the *oblast* government administrations would simply distribute budgets to the providers in each region, the Minister of Health advocated instead that the state budget for health in each *oblast* be administered by the *oblast* branch of the MHIF. This was agreed, and the Kyrgyz Single Payer System was initiated in 2001 in two *oblasts*. This reform reached nationwide implementation by 2004 and has completely transformed the health financing system.

Funding and population coverage arrangements under the Single Payer System are shown in Fig. 1 and can be summarized as follows:

- Local budget funds (district, city and *oblast*) for health care are pooled in the *oblast* branch of the MHIF on behalf of the entire population of the *oblast*.
- The MHIF purchases a "state-guaranteed benefit package" on behalf of the entire population of the *oblast* from these budget funds. The package includes formal co-payments for referral care, with the level of co-payment linked to a patient's insurance or exemption status. The insured population is entitled to reduced co-payments and an additional outpatient drug benefit.
- Universal coverage is funded from general public revenues with entitlement based on citizenship/residence while a contributory "SHI" benefit is complementary (rather than an alternative) to this.
- From both sources of funds, the MHIF pays providers on the basis of outputs (e.g. case-based payment) and needs (e.g. capitation).
- Greater autonomy was given to providers with regard to their internal resource allocation decisions (relaxation of strict line-item budget controls).
- While out-of-pocket payment became explicit with the co-payment, the reform did not involve any change in the sources of funds.

The reformed system is an attempt to recapture the universal health care system that existed under the former Soviet Union. The radical changes in the fiscal context meant that major reform of the financing system was needed to address the underlying efficiency problems

and move towards both formalization and reduction of the out-of-pocket payment burden.

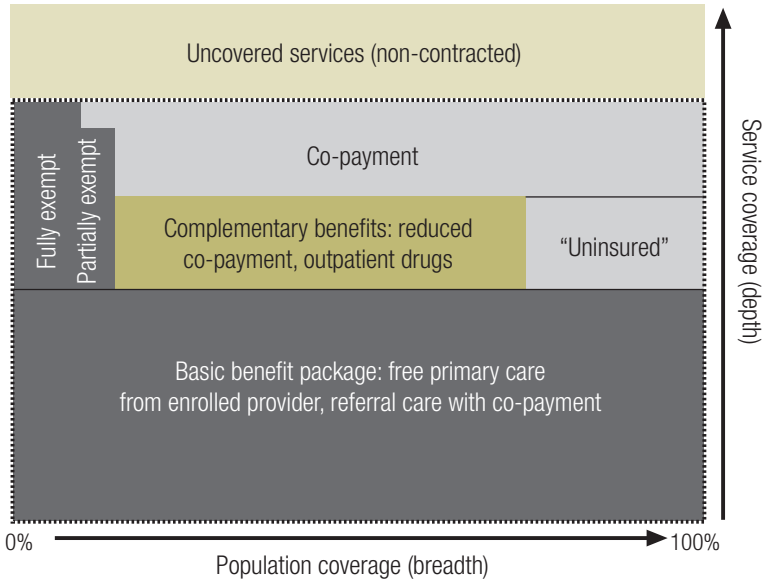
National pooling of funds

A further reform was introduced in 2006: budget funding for health was centralized and hence the Single Payer System became a national pool of funds rather than one organized at the level of each *oblast*. Pooling of funds at the central level allowed the MHIF to initiate the process of equalizing allocations for the state guaranteed benefit package by *oblast*. The government used incremental funds to increase funding in previously underfunded areas, rather than to redistribute directly from the better-off regions, in order to avoid losing political support from the better-off regions. This became possible as funding trends began to reverse with a strong government commitment to increase health expenditures, reflected in a rise from 2.3% of GDP in 2004 to 3.4% in 2007. In 2007, 84% of public funds for the health sstem came from the government budget and 16% from payroll tax. The impact of centralized pooling was immediate. The funding gap between the capital city of Bishkek and other *oblasts* reduced in all cases except one. In addition, key findings from a 2007 household survey analysis are that financial barriers to care have steadily reduced since 2001 and 2004, and out-of-pocket costs have declined, particularly for the two poorest quintiles. Equity in both utilization and financing has improved. In addition, the share of patients making informal payments was significantly reduced for all categories of patient expenditures.[16,17] A decade after the introduction of the MHIF, consistency in implementation and a conscious effort to address the financing system for the entire population have yielded clear gains in the efficiency, equity and transparency of the health system.

Reform impact

The Single Payer System addressed many of the underlying problems in the health system. The pooling of budget funds at *oblast* level and later at the national level gradually reduced fragmentation in the system and created an enabling environment for restructuring and re-allocation of resources according to needs rather than infrastructure. The break with norm-based budget allocation reduced the persistence of facility managers to hold onto infrastructure and the introduction of case-based payment at the hospital level shifted the incentives so that providers became interested in increasing productivity and reducing fixed costs. In the first year of implementation, the number of hospital buildings in the two reforming regions was reduced by more than 30% and the share of revenues devoted to patient treatment inputs (drugs, supplies, food) in hospitals doubled.[12]

Fig. 1. **Funding and coverage of benefits in the Kyrgyz Single Payer System, 2001–2005**



Funding source

- Private
- Private, out-of-pocket
- Payroll tax transfers from social fund, and central budget transfers for children under 16s
- Budget – local governments allocate funds for health care to the *oblast* MHIF, effectively "buying" coverage for the basic package for their entire populations
- Services contracted by MHIF

MHIF, mandatory health insurance fund.

Budgeting challenges

Changing the payment mechanisms was challenging. Although resource allocation within the health sector across facilities was now based on the number of cases, *oblast* finance departments continued to set budgets based on historical norms, often interpreting a reduction in infrastructure as a reduction in need. Initially, this led to a reduction in the health budget of reforming *oblasts*, requiring political interventions to overcome the resistance of budget departments to redefine their interpretation of need. In addition, the much slower pace of overall public finance reform created a conflict between the new provider payment mechanisms and the old-style public reporting processes which remained based on line-items. This overall budgeting and reporting system threatened the efficiency enhancing incentives and limited the extent of the (still quite substantial) gains from these. This issue is only now being resolved with a shift in the overall budgeting process for the health sector from an input to an output basis (i.e. the wider public sector financial management system is now catching up with the provider payment reforms).

Extensive quantitative[12,18,19] and qualitative[20] research shows that the reforms also were largely successful in replacing informal payments with formal co-payments and reducing patient financial burden, particularly for medicines and medical supplies, despite the fact that the total level of public spending on health did not increase very much during the period when the Single Payer System was extended nationwide. There remains a long way

to go, however, as available public financing still leaves a substantial level of private cost-sharing for the package. Further improvement in financial protection remains an ongoing challenge for health financing reforms.

Factors for successful reform

Several factors explain why Kyrgyzstan has implemented such far-reaching reforms although its pre-reform health system did not differ significantly from that of other countries in the former Soviet Union. First, the fiscal imperative to reform and squeeze internal resources was great, with real public expenditures on health reduced by half between 1991 and 1998. In countries where the fiscal contraction was less severe or where there were realistic opportunities for eventual substantial economic growth driven by raw material exports (e.g. Kazkakhstan, the Russian Federation and Uzbekistan), governments could afford delaying efficiency enhancing reforms for a longer time. Second, many elements thought to be important for successful reform implementation were in place for much of the ten-year reform period. Despite occasional wavering, there was high-level political attention and support for the chosen path of health financing reform. There has been good and continuous leadership in the health sector pushing forward the reform agenda and forging political support. Extensive capacity building has led to the development of qualified mid-level staff in the Ministry of Health and MHIF ensuring sustainability of the reforms. The institutional features of the MHIF have also been important to make the system work efficiently and in a transparent manner: the MHIF was given sufficient time (four years) to develop, mature, build capacity and learn-by-doing before the initiation of the single payer reform in 2001. Finally, development partners have worked in a coordinated manner supporting the government's health sector strategy.

Conclusion

The Kyrgyz reforms provide an excellent example of why health financing policy should not be reduced to a simplistic choice between the Beveridge and Bismarck models. In a low-income setting where much of the population is not employed in the formal sector, payroll taxes will not be a major source of funds. However, it is possible to create a universal health financing system by transforming the role of budget funding from directly subsidizing provision to subsidizing the purchase of services on behalf of the entire population. In other words, universality was designed into the system from the beginning rather than hoping that insurance coverage would simply expand over time. Even in contexts where there are severe limitations on the choice of sources of funds, reforms that reduce fragmentation in pooling, shift from input- to output-based payment methods, specify benefit entitlements more transparently and develop capacity in a purchasing agency can lead to improvements in health system performance. By approaching health financing policy from a functional perspective, the Kyrgyz health reformers have demonstrated that it is not necessary to choose between Beveridge and Bismarck; well-defined policy can enable their complementary co-existence in a unified, universal health system. ■

Competing interests: None declared.

Résumé

Quand Bismarck rencontre Beveridge sur la Route de la soie : coordination des sources de financement pour créer un système universel de financement de la santé au Kyrgyzstan

Les options pour réformer le financement de la santé sont souvent présentées comme un choix à faire entre une taxation générale (modèle beveridgien) et un système d'assurance santé de type social (modèle bismarckien). Les dix années de réforme du financement de la santé au Kyrgyzstan depuis l'introduction du fonds d'assurance santé obligatoire en 1997 illustrent à la perfection les raisons pour lesquelles il est erroné de réduire la politique de financement de la santé à un choix entre un modèle beveridgien et un modèle bismarckien. Plutôt que de fragmenter le système en fonction du statut en tant qu'assuré de la population, comme l'ont fait de nombreux autres pays à revenu faible ou moyen, les réformes menées au Kyrgyzstan ont été guidées par l'objectif d'instaurer un système d'assurance unique pour l'ensemble de la population. Parmi les volets principaux de ces réformes figurent le rôle et le développement graduel du fonds d'assurance santé obligatoire en tant qu'acheteur unique des services de santé pour toute la population à l'aide d'une méthode de paiement reposant sur les résultats, la restructuration complète du dispositif de regroupement des risques pour passer de l'ancienne structure budgétaire décentralisée à un pool national unique et la mise en place d'un ensemble clair de prestations. Au centre de ce processus, on trouve la transformation du rôle des recettes budgétaires générales - principale source de financement public pour la santé -, qui au lieu de subventionner directement la fourniture de services, subventionnent maintenant l'achat de services au nom de la population dans son ensemble, en redirigeant ces dépenses vers le fonds d'assurance santé. A travers cette approche du financement de la santé et notamment grâce au regroupement des risques, les réformateurs du Kyrgyzstan ont démontré qu'il était possible d'utiliser des sources de financement différentes de manière explicitement complémentaire pour créer un système universel et unifié.

Resumen

Bismarck y Beveridge en la Ruta de la Seda: coordinación de las fuentes de financiación de un sistema de cobertura sanitaria universal en Kirguistán

Las opciones de reforma de la financiación de la salud se resumen a menudo como un dilema entre los sistemas basados en los impuestos generales (el llamado modelo Beveridge) y el seguro social de enfermedad (conocido como modelo Bismarck). La experiencia de diez años de reforma de la financiación sanitaria que ha acumulado Kirguistán desde que se implantó el fondo del seguro obligatorio de enfermedad en 1997 brinda un ejemplo excelente para demostrar que la reducción del problema de la financiación de la salud a la mera elección entre el modelo Beveridge y el modelo Bismarck constituye un error. En lugar de fragmentar el sistema considerando la población asegurada y la no asegurada, como han hecho muchos otros países de ingresos bajos y medios, las reformas llevadas a cabo en Kirguistán se guiaron por el objetivo de implantar un solo sistema para toda la población. Entre las iniciativas más importantes de esas reformas cabe citar la función y el desarrollo gradual del fondo de seguro médico obligatorio como el único comprador de servicios de atención sanitaria para toda la población, usando métodos de pago basados en los resultados; la plena reestructuración de los arreglos de mancomunación de los recursos, pasando de la antigua estructura presupuestaria descentralizada a un solo fondo común nacional; y el establecimiento de un paquete de prestaciones bien delimitado. Un aspecto fundamental del proceso fue la transformación de la función de los ingresos generales del presupuesto, principal fuente de financiación pública de la salud, que pasaron de subvencionar directamente el suministro de servicios a subvencionar la compra de servicios en nombre de toda la población a través del fondo del seguro de enfermedad. Replanteándose de ese modo su política de financiación de la salud, en particular la mancomunación de recursos, los reformadores del sistema de salud de Kirguistán han demostrado que es posible crear un sistema unificado y universal usando fondos de distinta procedencia de forma claramente complementaria.

ملخص

بسمارك يلتقي ببفيردج على الطريق الحريري: تنسيق الموارد المالية لإيجاد نظام شامل للتمويل الصحي في قيرغيزستان

الملخص: كثيراً ما يتم تصوير الاختيارات المتاحة لإصلاح التمويل الصحي على أنها خيارات بين فرض الضرائب العامة (بما يعرف أنه نموذج بيفردج) وبين الضمان الصحي الاجتماعي (بما يُعرف بنموذج بسمارك). وتقدم السنوات العشر لإصلاح التمويل الصحي في قيرغيزستان، والتي بدأت منذ إدخال صندوق النظام الصحي الإجباري عام 1997، مثالاً ممتازاً على خطأ سياسة اقتصار التمويل الصحي، على مجرد الاختيار بين نموذجَيْ بيفردج وبسمارك؛ فبدلاً من تفتيت النظام وفقاً لوضع السكان من حيث التأمين الصحي، وكما فعل الكثير من البلدان المنخفضة الدخل والمتوسطة الدخل، فقد استرشدت عملية الإصلاح في قيرغيزستان بهدف أن يكون لها نظام وحيد يشمل جميع السكان. ومن أهم ملامح ذلك النظام دور صندوق الضمان الصحي الإجباري وتطوُّره التدريجي ليكون المشتري الوحيد لخدمات الرعاية الصحية لكامل السكان، مستخدماً طُرقاً للدفع تستند على الحصائل، وإعادة الهيكلة الكاملة للإجراءات التجميعية انطلاقاً من البنية السابقة اللامركزية للميزانية، وصولاً لتجميعة وطنية وحيدة مع إنشاء حزمة منافع صريحة. وكان من الأمور الهامة في هذه العملية تحويل دور عوائد الميزانية العامة، وهي المصدر الوحيد للتمويل العام للصحة، من الدعم المباشر لتقديم الخدمات إلى دعم شراء الخدمات نيابةً عن جميع السكان، بتحويلهم إلى صندوق التأمين الصحي. وقد أظهرت الإصلاحات الصحية في قيرغيزستان، من خلال أسلوبها لسياسات التمويل الصحي، وبشكل خاص لتجميع الموارد، أن من الممكن استخدام المصادر المختلفة للتمويل بطريقة تكاملية صريحة للتمكن من إيجاد نظام موحَّد وشامل.

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