Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania

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Abstract The World Health Assembly of 2005 called for all health systems to move towards universal coverage, defined as "access to adequate health care for all at an affordable price". A crucial aspect in achieving universal coverage is the extent to which there are income and risk cross-subsidies in health systems. Yet this aspect appears to be ignored in many of the policy prescriptions directed at low- and middle-income countries, often resulting in high degrees of health system fragmentation. The aim of this paper is to explore the extent of fragmentation within the health systems of three African countries (Ghana, South Africa and the United Republic of Tanzania). Using a framework for analysing health-care financing in terms of its key functions, we describe how fragmentation has developed, how each country has attempted to address the arising equity challenges and what remains to be done to promote universal coverage.

The analysis suggests that South Africa has made the least progress in addressing fragmentation, while Ghana appears to be pursuing a universal coverage policy in a more coherent way. To achieve universal coverage, health systems must reduce their reliance on out-of-pocket payments, maximize the size of risk pools, and resource allocation mechanisms must be put in place to either equalize risks between individual insurance schemes or equitably allocate general tax (and donor) funds. Ultimately, there needs to be greater integration of financing mechanisms to promote universal cover with strong income and risk cross-subsidies in the overall health system.

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Introduction

Over the past few decades, health sector reforms in many African and other low- and middle-income countries have increased inequities in access to affordable health care. A growing reliance on out-of-pocket payments and privately organized care has resulted in health care provided on the basis of ability-to-pay, which has disadvantaged lower-income socioeconomic groups.

The 2005 World Health Assembly called for universal coverage in health systems.[1] WHO defined this as securing "access to adequate health care for all at an affordable price".[2] This definition allows for a high level of fragmentation in health-care provision and financing. Fragmentation refers to the existence of a large number of separate funding mechanisms (e.g. many small insurance schemes) and a wide range of health-care providers paid from different funding pools. Different socioeconomic groups are often covered by different funding pools and served by different providers. Fragmentation reduces the possibilities for income and risk cross-subsidies in the overall health system.[3] Although WHO adds that a "crucial concept in health financing policy towards universal coverage is that of society risk pooling",[2] this aspect appears to be ignored in many of the policy prescriptions directed at low- and middle-income countries in recent times.[4–6]

To achieve universal coverage through pooling risk to the greatest extent possible, and an equitable health system where ability-to-pay determines financing contributions and the use of services is on the basis of need for care, user fees and other out-of-pocket payments must be reduced and the level of prepayment should be increased[7] in a way that maximizes the size of risk pool(s). This can be done by increased tax funding and/or by introducing mandatory (i.e. social or national) health insurance.

The aim of this analysis is to explore the extent of fragmentation within the health systems of three African countries (Ghana, South Africa and the United

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Republic of Tanzania); how this developed; how each country has attempted to address the equity challenges arising from this fragmentation and what remains to be done to promote universal coverage. This paper draws on the results of the first phase of a three-year project analysing equity in the finance and delivery of health care in Ghana, South Africa and United Republic of Tanzania. More information is available at: http://www.heu.uct.ac.za/shield. A brief overview of the health systems of these countries, using a framework for analysing health-care financing in terms of its key functions,[8,9] is provided in Table 1 (available at: http://www.who.int/bulletin/volumes/86/11/08-053413/en/index.html).

From colonialism to fragmentation

Under colonial rule, many African countries, including Ghana, South Africa and the United Republic of Tanzania, organized their health systems primarily to benefit a small elite group of colonials and their workers.[10,11] Health-care provision occurred mainly through hospitals in urban areas, with direct payment at the point of use. The rest of the population relied on services from a range of providers such as traditional healers and missionary health centres.

After independence, the governments of Ghana and the United Republic of Tanzania provided medical care free of charge to their populations at public health facilities. Health care was financed through general taxes and external donor support,[12] user fees were removed and attention was directed to developing a wide range of primary health-care facilities across the country. At that time private practice was limited, and even prohibited by law in the United Republic of Tanzania in 1977. Post-colonial South Africa, in contrast, did not usher in democratic elections, and apartheid policies reinforced inequities in the distribution of health services between the urban and rural population as well as along racial lines.[13] User fees remained in place, albeit relatively token. In addition, private voluntary insurance organizations, called medical schemes, were established by mining and other companies as a way to provide for the health-care needs of their "white" employees (classified as such under the former South African Population Registration Act).[14]

However, because of worsening economic conditions in the 1980s and the inability to sustain recurrent government expenditure to provide free health care to their populations, Ghana and the United Republic of Tanzania initiated health sector reforms as part of broader structural adjustment programmes under the guidance of The World Bank and the International Monetary Fund. These macroeconomic policies, embedded in neoliberal ideology, aimed mainly at reducing government spending to address budgetary deficits, introducing cost recovery mechanisms through user fees[15] and liberalizing health services to allow private sector involvement.[16,17] Although not under similar pressure from international financial institutions, the South African government subscribed to many of the prevailing neoliberal macroeconomic policies of the time and introduced similar reforms.[18] In particular, South Africa increased the level of user fees substantially and vigorously promoted the growth of the private health sector.[19]

The reforms in all three countries had a profound impact on the financing and organization of the health sector. The liberalization of the health sector led to a rapid increase in the number of private health providers, many of them informal and unregistered.[20] In general, these health sector reforms undermined the potential for cross-subsidies in the overall health system and resulted in increased inequalities in access and utilization of health services. By the end of the 1990s, public resources for the health sector had declined sharply and health system funding relied heavily on cost recovery policies and voluntary health insurance. Following the re-introduction of user fees, the utilization of health services decreased significantly in Ghana[12,21] and the United Republic of Tanzania,[22] particularly among people on low incomes. As well as the decline in utilization, user fees were also associated with delays in seeking treatment and increased reliance on self medication.[23]

An additional component of financing reforms during this period was the introduction of risk sharing strategies through community based health insurance (CBHI) in Ghana and the United Republic of Tanzania and the dramatic increase of private voluntary health insurance in South Africa. These voluntary insurance schemes have fuelled health system fragmentation, with over a hundred individual medical schemes in South Africa and, similarly for CBHI, in Ghana[24] even though they cover a small proportion of the population (less than 14% in South Africa, and less than 1% in Ghana and the United Republic of Tanzania).

The current fragmentation of the health system into large numbers of small insurance risk pools, especially in South Africa and until recently in Ghana, and the relatively high share of out-of-pocket expenditures as a percentage of total expenditure on health (47% in the United Republic of Tanzania, 45% in Ghana and 11% in South Africa)[25] severely limit the potential for universal coverage. Out-of-pocket payments represent the most extreme form of fragmentation as they place the burden of health-care funding on an individual and translate into health service use, and hence benefits, being distributed according to ability-to-pay rather than need for health care.

Health services for different socioeconomic groups and groups with varying health-care needs are not financed in the same way. For example, although CBHI schemes often cover relatively poor communities, they exclude the poorest.[26,27] Similarly, private voluntary insurance schemes in South Africa cover the wealthiest groups and have sought to exclude those with the greatest health risks[28] who are then dependent on publicly funded health care for which they are generally required to pay user fees (except at the primary care level). This effectively prohibits risk-related and income-related cross-subsidies between groups of different socioeconomic status and health-care needs.

What are some of the effects of this fragmentation? First, some households face a "catastrophic" burden of health-care payments, with expenditure that exceeds 10% of total household income[29] or 40% of non-food household expenditure.[30] For example, it was estimated that 1.3% of households in Ghana experience "catastrophic" payments (which is above average from a study of 59 countries).[30] Second, poorer groups are not able to benefit from publicly funded health services to the extent that their relative burden of ill-health would suggest, as their utilization is deterred by user fees. For example, while

the poorest quintile of the population in Ghana in the 1990s received 12% of the benefit of using public health services, the richest quintiles received 33%; the comparable figures for the United Republic of Tanzania are 17% and 29%.[31] Finally, an effect of fragmentation in South Africa, which is not evident in the other two countries, is an uncontrolled cost spiral within the private sector. This is largely due to the inability of the many separate medical schemes to negotiate effectively with powerful collectives of private sector providers.[13] Thus, fragmentation is not only of concern from an equity perspective, but also in relation to health system efficiency and affordability.

Promoting cross-subsidies

It is worthwhile considering whether and how these three African countries have set about addressing the equity problems of their highly fragmented health systems. User fee exemptions and waivers have been implemented as partial remedies for the lack of a comprehensive system of cross-subsidies in all three countries, in an effort to reduce the economic burden of ill health on poor and vulnerable households and improve access to health care. The current South African health system features free health care for vulnerable groups (particularly pregnant women, children aged less than 6 years, the disabled and the elderly), waivers for the poor and free primary health services for all. In Ghana, exemptions focus mainly on diseases regarded as being of public health importance (e.g. leprosy, tuberculosis), specific services for children and pregnant women (e.g. immunizations, antenatal care) and people with extremely low incomes. The situation is similar in the United Republic of Tanzania with exemptions for priority groups and selected health conditions and waivers on grounds of poverty.

In all three countries, exemptions for specific demographic groups and diseases have been implemented relatively successfully. However, waivers directed at protecting the poorest people have proven to be ineffective,[32,33] largely due to the perennial problem of identifying them, as well as a lack of awareness on eligibility criteria and the deterrent of excessive "red-tape". In addition, the issue of whether user-fee revenue lost from waivers is reimbursed influences the extent to which they are granted at facility level. For example, all exemptions and waivers in Ghana are meant to be reimbursed to individual facilities out of pooled government and donor funds. Inadequate budgeting for exemption and waiver reimbursements and long delays in paying reimbursements have led to some facilities refusing to grant them.[33]

Developing effective mechanisms for identifying and protecting people with very low incomes is critical in all three countries. Even if user fees were completely abolished, as is happening in a growing number of African countries, it would still be necessary to identify people with the lowest incomes to protect them in relation to other financing mechanisms (e.g. to partly or fully subsidize their health insurance contributions). In addition, if universal coverage is to be achieved, it is necessary to explore ways of achieving funding pools that are as large and integrated as possible, to maximize income and risk cross-subsidies and to allocate pooled resources in an equitable way.

The key pooled funding mechanisms for health care are tax (and donor) funding and health insurance schemes. Although African heads of state, through the 2001 Abuja Declaration, committed themselves to allocating 15% of government budgets to the health sector,[34] there has been progress towards this goal only in Ghana, where the health sector's share of the budget increased from 8.2% in 2004 to 15% in 2006.[35,36] A significant component of this growth results from increases in salaries and allowances in the health sector. In contrast, in South Africa the health sector's share of the government budget has in fact declined from 11.5% of the total government budget in 2000/2001 to 10.9% in 2007/2008.[13] In the United Republic of Tanzania, public spending has increased negligibly from just under 10% in the early 2000s to 10.2% of total public spending in 2005/2006.[37]

In relation to health insurance schemes, there has been little progress in expanding insurance coverage within South Africa. The uncontrolled spiral in medical scheme expenditure and contributions has in fact contributed to a decline in the proportion of the population covered from 17% in the 1990s to about 14% currently. The benefit package has also declined, with many schemes only covering inpatient care and chronic illnesses specified in the Prescribed Minimum Benefits regulation. In contrast, Ghana and the United Republic of Tanzania have made significant progress in expanding insurance coverage. In both countries, until the recent introduction of mandatory insurance, community-based health insurance had been the predominant form of health insurance and it had achieved very limited coverage. These schemes generally only cover outpatient care at primary health-care level. In 1999, the United Republic of Tanzania introduced the National Health Insurance (NHI) fund for civil servants, which now covers 5% of the population. More recently, the National Social Security Fund has introduced a Social Health Insurance Benefit to cover formal sector workers in private firms and some employees in the public sector. Registration to date has been relatively low and accounts for less than 1% of the population. Ghana has taken the boldest steps towards universal coverage by introducing an NHI scheme in 2003, which will ultimately cover all Ghanaians. By December 2007, 55% of the population had registered with the NHI and 44% had received their membership cards.[38] The mandatory health insurance schemes in both countries cover quite comprehensive outpatient and inpatient services at public sector and accredited nongovernment facilities.

It is not only expansion of population coverage by pooled funding that is important from a universal coverage perspective but also the degree to which different funding pools are integrated. In South Africa, there has been some consolidation of insurance coverage, with the number of medical schemes declining over the past few years. Nevertheless, there remain over 120 schemes, each with several benefit options that operate as separate pools,[39] severely fragmenting the pooling of risk across the insured population. There is an intention to introduce a risk-equalization mechanism between these separate schemes but this is yet to be implemented. In Ghana, each of the district mutual health insurance schemes that comprise the NHI effectively constitutes a separate risk pool. The NHI fund could assume risk-equalization responsibilities, but this has not been done explicitly to

date. Instead, it simply transfers certain funds to individual district mutual health organizations. These include the payroll-based health contributions of formal sector employees and government funds used to subsidize the contributions of informal sector workers and the poor. In the United Republic of Tanzania, the decision to introduce the Social Health Insurance Benefit as a mandatory scheme separate from the NHI fund appears to have been largely influenced by the preferences of private sector employers and employees; it is of concern from the perspective of fragmenting risk pools that there is no mechanism for risk-equalization between these mandatory schemes.

Risk-equalization is a mechanism for allocating resources that are pooled via health insurance. Mechanisms are also required to ensure the equitable allocation of funds pooled via tax revenue. Both mechanisms for risk-equalization between insurance schemes and for the allocation of general tax resources ensure that the relative risk of ill-health or likely health-care needs of the population served are taken into account. All three countries use some form of needs-based formula for guiding the allocation of tax resources between different geographic areas. For example, Ghana uses a formula including the regional population size, the population below the poverty line and rates of under-5 mortality to determine the allocation of tax and donor-pooled funds for non-salary budgets in the health sector. The same variables, with the addition of a variable reflecting the transport needs within each district, are used in the formula used to allocate donor "health basket" funds and "block grants" (tax funds and donors' general budget support) to districts in the United Republic of Tanzania. In South Africa, budgets for the full range of services provided by provinces are allocated to provinces on the basis of a formula which includes estimates of the relative need for these services, with the health component being based largely on the size of the population not covered by private health insurance.

However, the equity promoting effect of these needs-based resource allocation formulae is to some extent offset by the allocation of other streams of tax and donor funds through separate channels. For example, in the United Republic of Tanzania districts are allocated a matching grant equal to member contributions to each district community health fund. While this provides an incentive for districts to generate community health fund revenue, it cannot be described as an equitable allocation mechanism as relatively poor districts are less able to generate these contributions in the first place. In Ghana, there is a separate funding channel for reimbursing fee revenue lost through granting exemptions. Thus, resources are not allocated according to the relative need for fee exemptions (e.g. based on the poverty levels in that district) but on the basis of the number of exemptions actually granted. As indicated previously, there are considerable problems in the implementation of exemptions, which are likely to be more severe in areas of lowest-income, which have the lowest staffing levels and weakest service delivery and exemption implementation capacity.

Conclusion

There is growing international consensus that out-of-pocket payments are contrary to the goal of universal coverage, particularly given the ineffectiveness of fee waivers in providing financial protection to the poor. There is also consensus that universal coverage can only be achieved through prepayment funding mechanisms. However, it is of concern that financing strategies (such as CBHI and private voluntary health insurance) that inevitably further fragment health systems are still being promoted as useful financing mechanisms for low- and middle-income countries.[4–6]

The analysis presented indicates that South Africa has made the least progress in addressing fragmentation, while Ghana appears to be pursuing a universal coverage policy in a more coherent way. To achieve universal coverage, the size of risk pools must be maximized. Further, resource allocation mechanisms must be put in place, whether these are to equalize risks between individual insurance schemes or to equitably allocate general tax (and donor) funds. Ultimately, there is a need to achieve as much integration of financing mechanisms as possible to promote universal cover with strong income and risk cross-subsidies in the overall health system. ■

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Résumé

Evolution vers la couverture de santé universelle en dépassant la fragmentation des systèmes de santé : aperçu de la situation en Afrique du Sud, au Ghana et en République unie de Tanzanie

L'Assemblée mondiale de la Santé de 2005 a appelé les systèmes de santé à évoluer vers la couverture de santé universelle, définie comme l'accès pour tous à des soins de santé appropriés à un prix abordable. Pour parvenir à la couverture universelle, un aspect essentiel est l'ampleur des subventions croisées entre les niveaux de risque et de revenu au sein des systèmes de santé. Néanmoins, cet aspect semble ignoré par la plupart des solutions politiques prescrites aux pays à revenu faible ou moyen, d'où souvent une importante fragmentation des systèmes de santé. L'objectif de cet article est d'étudier le degré de fragmentation des systèmes de santé de trois pays africains (Afrique du Sud, Ghana et République unie de Tanzanie). En utilisant un cadre pour analyser le financement des soins de santé selon ses principales fonctions, nous décrivons comment cette fragmentation s'est établie, comment chaque pays a tenté de faire face aux problèmes d'équité émergeants et ce qu'il reste à faire pour promouvoir la couverture universelle.

D'après cette analyse, c'est l'Afrique du Sud qui a le moins progressé dans la correction de cette fragmentation, tandis que le Ghana semble engagé, de manière plus cohérente, dans une politique visant à établir la couverture universelle. Pour atteindre une telle couverture, les systèmes de santé doivent réduire leur dépendance à l'égard des débours directs par les ménages, répartir au maximum les risques et mettre en place des mécanismes d'allocation de ressources, destinés soit à niveler les risques entre les systèmes d'assurance individuels, soit à répartir équitablement les fonds généraux provenant de l'impôt (et de donateurs). Enfin, il faudrait obtenir une plus grande intégration entre les mécanismes financiers favorisant la couverture universelle et les importantes subventions croisées entre les niveaux de revenu et de risque au sein du système global de santé.

Resumen

Superar la fragmentación y avanzar hacia la cobertura universal: claves desde Ghana, Sudáfrica y la República Unida de Tanzanía

En la Asamblea Mundial de la Salud de 2005 se abogó por que todos los sistemas de salud avanzaran hacia la cobertura universal, definida como "el acceso a una atención de salud adecuada para todos a precios asequibles". Un aspecto crucial para garantizar la cobertura universal es lo extendidas que estén las transferencias de subvenciones entre sectores con distintos ingresos y riesgos en el sistema de salud. No obstante, se diría que este aspecto se pasa por alto en muchas de las prescripciones normativas dirigidas a los países de ingresos bajos y medios, lo que se traduce a menudo en un alto grado de fragmentación de los sistemas sanitarios. El objetivo de este artículo es analizar el grado de fragmentación existente en los sistemas de salud de tres países africanos (Ghana, Sudáfrica y la República Unida de Tanzanía). Utilizando un marco de análisis de la financiación sanitaria basado en sus funciones esenciales, describimos cómo ha surgido la fragmentación, de qué manera ha intentado cada país abordar los problemas resultantes en materia de equidad, y las medidas que es necesario tomar aún para fomentar la cobertura universal.

El análisis realizado lleva a pensar que Sudáfrica es el país que menos ha progresado para corregir la fragmentación, mientras que Ghana parece estar dando pasos hacia la cobertura universal de manera más sistemática. Para lograr esa cobertura, los sistemas de salud deben reducir su dependencia de los pagos directos y maximizar las dimensiones de los fondos de mancomunación del riesgo, y además deben implementarse mecanismos de asignación de recursos que tiendan ya sea a igualar los riesgos entre los planes de seguro individuales o a distribuir de forma equitativa los fondos recaudados mediante los impuestos generales (o aportados por los donantes). Finalmente, debe haber una mayor integración de los mecanismos de financiación para fomentar la cobertura universal mediante subvenciones diferenciales importantes en función de los ingresos y los riesgos en todo el sistema de salud.

ملخص

تجاوز التشتت والتوجُّه نحو التغطية الشاملة: رؤى من غانا وجنوب أفريقيا وجمهورية تنزانيا المتحدة

دعت جمعية الصحة العالمية لعام 2005 جميع النظم الصحية للتحرك نحو بلوغ التغطية الشاملة والتي تعرّف بأنها «إتاحة الرعاية الصحية الملائمة للجميع بسعر مَيْسور». وأحد الجوانب الحاسمة في بلوغ التغطية الشاملة هو مدى تضمن النظم الصحية على إيرادات وإعانات لمواجهة المخاطر. وحتى يومنا هذا، يبدو هذا الجانب مهملاً لدى الكثير من الوصفات للسياسات الموجهة إلى البلدان المنخفضة والمتوسطة الدخل، مما يؤدي في غالب الأحيان إلى التشتت بدرجات كبيرة في النظم الصحية. وتهدف هذه الورقة إلى استقصاء مدى التشتت داخل النظم الصحية لثلاثة بلدان أفريقية (غانا، وجنوب أفريقيا، وجمهورية تنزانيا المتحدة). وقد استخدم الدارسون إطاراً لتحليل تمويل الرعاية الصحية من حيث وظائفها الأساسية، ووصفوا كيف أمكن للتشتت أن يتطور، وكيف حاول كل بلد التصدي للتحديات التي ظهرت في مجال العدالة، وما يبقى عمله لتعزيز التغطية الشاملة.

ويشير التحليل إلى إحراز جنوب أفريقيا أقل مستويات التقدم في التصدّي للتشتت، فيما يبدو أن غانا تتبع سياسة التغطية الشاملة بطريقة أكثر تناسقاً. وينبغي لتحقيق التغطية الكاملة أن تقلل النظم الصحية من اعتمادها على المدفوعات من جيوب المواطنين، وأن تزيد إلى أقصى حد من حجم أوعية تغطية المخاطر، كما ينبغي تفعيل آليات تخصيص الموارد للوصول إما إلى تساوي الأخطار بين خطط التأمين الفردية أو إلى تخصيص أموال الضرائب العامة وأموال المانحين بشكل متساوٍ. وفي نهاية المطاف، ينبغي أن يكون هناك تكامل أكبر بين آليات التمويل لتعزيز التغطية الشاملة إلى جانب وجود إيرادات قوية وإعانات لمواجهة المخاطر المالية في النظام الصحي الكلي.

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Table 1. **Analytic overview of health systems in Ghana, South Africa and the United Republic of Tanzania**

Ghana	
Revenue collection	
Source of funds	There is significant donor funding, accounting for about 20% of total health-care funding. The burden of domestic funding is on companies and households, but households ultimately bear the major burden. There are some exemptions from contributions (e.g. the lowest income group does not pay income tax; children aged less than 18 years are exempt from national health insurance contributions if both parents have paid their premiums; and children aged less than 5 years and the elderly aged more than 70 years do not have to pay user fees. Pregnant women do not have to pay for certain services, and there is no fee for leprosy and TB treatment). User fee waivers apply to indigent people, but it has been difficult to clearly define and identify this group.
Contribution mechanisms	General tax revenue is generated from personal income tax (11%), company tax (15.4%), VAT (25.4%), petroleum tax (18.3%), import tax (16.5%), earmarked tax for national health insurance (5.1%) and a range of other taxes accounting for 8%. Personal income tax is structured progressively with low-income earners being exempt and the marginal tax rate ranging from 5% for the lowest income taxpayers to 28% for the highest income taxpayers. VAT is charge at 15% (10% for general government revenue, 2.5% as an earmarked tax for education and 2.5% as an earmarked tax for health insurance). NHI scheme: For formal sector workers, a payroll deduction of 2.5% is transferred to the NHI fund as part of their contribution to the Social Security and National Insurance Trust (SSNIT) fund. Theoretically, contributions by those outside the formal sector are supposed to be graduated according to income such that low-income groups pay a premium of 7.20 Ghanaian cedi (GH¢) or US$ 8 while those with the highest income pay a premium of GH¢ 48.00 or US$ 53. In reality, a flat premium payment of GH¢ 7.20 per annum is charged due to the difficulty of categorizing people into different socioeconomic groups. Out-of-pocket payment: User fees are not differentiated according to income in Ghana. The majority of people pay out-of-pocket for their health care needs in public and private health facilities, pharmacies and traditional healers.
Collecting organization	Taxes are collected by three main bodies in Ghana: the Internal Revenue Service collects personal and company income tax; the VAT secretariat collects domestic VAT, excise duties and part of the NHI levy. The Customs, Excise and Preventive Service collects import duties, import VAT, petroleum tax and part of the NHI levy. All of these taxes are then pooled by the Revenue Agency Governing Board of the Ministry of Finance and Economic Planning. Health insurance contributions are made by both formal and informal sector workers. Formal sector workers contribute via SSNIT, a body that manages retirement funds. These funds are sent to the DMHIS according to the number of formal workers/ SSNIT contributors that a scheme registers. Those outside the formal sector pay their contributions directly to their respective DMHIS.
Risk pooling	
Coverage and composition of risk pools	The NHI scheme has been implemented through a network of DMHISs. Each district has a scheme, with the larger districts (in metropolitan areas) having more than one. There are already 138 DMHISs in the country. By December 2007, 55% of the population were registered under the NHI scheme, although only 44% of the population had received their membership cards due to administrative problems. Although some of the poor have been enrolled in the NHI scheme through government subsidies, the majority of members are from higher income groups. Even though legislation makes provision for setting up private insurance schemes, they cover less than 1% of the population. The majority of those not covered by NHI use public sector health facilities and pay user fees and a small number pay out-of-pocket to access health services from the private sector.
Allocation mechanisms	There is no risk-equalization between the individual DMHIS at present. The NHI scheme secretariat merely allocates funds to DMHISs based on the number of SSNIT registered members as well as indigent members that have been registered. Taxes are centrally collected and allocated to regional and district levels using a needs-based resource allocation formula.
Purchasing	
Benefit package	The benefit package of the NHIS is quite comprehensive, covering outpatient and inpatient services at accredited facilities, as well as the community-based health planning services. The benefit package is the same for all DMHISs. Those using publicly and user-fee funded services also have access to a comprehensive range of services, which is primarily limited by the ability-to-pay user fees.
Provider payment mechanisms	Public and some not-for-profit private (e.g. Christian Health Association of Ghana) facilities are allocated budgets and staff are paid salaries. The DMHISs pay providers on a fee-for-service basis. Private for-profit practitioners are paid on a fee-for-service basis, through out-of-pocket payments.

(Table 1, cont.)

Provision	There is an extensive and well-distributed network of public sector primary health facilities in all 10 regions of Ghana. There are 2 teaching hospitals, 9 regional hospitals, and several district hospitals. Hospitals are less well-distributed, with specialist services being heavily concentrated in the south of the country and in the urban areas. There are a relatively small number of private for-profit health facilities, mainly concentrated in the two big cities of Kumasi and Accra, which serve the wealthiest groups. Human resources in the health sector is a challenge. The number of health professionals working in the public health sector is very low relative to the population it serves (e.g. there are about 10 000 people per doctor, 1 587 people per nurse and 14 286 people per pharmacist in the public sector). Nevertheless, the majority of health care professionals work in the public sector.
South Africa	
Revenue collection	
Source of funds	There is very little donor funding in South Africa (< 1% of total health care funding). Domestic funding – burden placed both on companies and individuals, but households ultimately bear most of the burden of funding health care services (through tax, insurance contributions and out-of-pocket payments). Some are not expected to contribute (e.g. the lowest income groups do not have to pay tax; pregnant women, children aged less than 6 years, the disabled and the elderly do not have to pay user fees at government facilities).
Contribution mechanisms	General tax revenue is generated from personal income tax (30% of total tax revenue); VAT (28%); company tax (23%) and a range of other taxes and levies (fuel levy, excise duties, customs duties, estate tax – combined accounting for 19%). Personal income tax is structured progressively with low-income earners being exempt and the marginal tax rate ranging from 25% for the lowest income taxpayers to 40% for the highest income taxpayers. Company tax is charged at a flat rate of 29%,VAT is charged at 14%, but many basic foods are exempt from VAT. Private voluntary health insurance (called medical schemes): Community-rated contributions to schemes; often shared between employers and employees (but percentage share varies across companies). Very few medical schemes relate contributions to income level; contributions are generally a flat rate linked to a specific benefit package (so contributions are differentiated by benefit package, not income level). Out-of-pocket payments: User fees at public sector hospitals (there are no fees for primary health care services) are differentiated according to income level – the poor are exempt from fees (but there are difficulties in proving eligibility for exemptions) and there are three other income categories with very low fees for the lowest income groups. There are limited incentives to collect fees (as the facility doesn't benefit from fee revenue) so many facilities do not apply fee schedules rigidly and place many patients in the lowest fee category. Some low-income workers, who are not members of medical schemes, use private general practitioners and retail pharmacies and pay on an out-of-pocket basis. The biggest share of out-of-pocket payments is attributable to medical scheme members, either in the form of co-payments or on services that are not covered under the benefit package. Co-payments are flat amounts or a percentage of the total bill.
Collecting organizations	Tax collected by the South African Revenue Service, which has recently improved tax collection mechanisms (identifying those not complying) and revenue collected has increased dramatically. Health insurance contributions collected directly from members (often employer and employee payroll contributions) by more than 120 medical schemes. Each scheme has a board of trustees that has oversight of the schemes activities. There have been considerable efforts to improve the skills of trustees and to ensure that they represent the members' interests.
Risk pooling	
Coverage and composition of risk pools	Medical schemes cover less than 14% of the population and include high- and middle-income formal sector workers and sometimes their dependents. There is risk pooling within individual schemes in relation to the PMB package (see page C), but most schemes have individual 'medical savings accounts' for primary care services. There are more than 100 medical schemes, and each scheme has a number of benefit packages, so there is considerable fragmentation into many small risk pools. The remaining 86% of the population is largely dependent on tax-funded health services, and comprises low-income formal sector workers, informal sector workers, the unemployed and the poor. A small part of this population pay out-of-pocket to purchase primary care services in the private sector, but are entirely dependent on the public sector for hospital services. Therefore, there is a very large risk pool through tax funding as anyone who needs care and is unable to pay will receive an exemption (liberally applied). There is no risk pooling between the tax-funded pool and the medical schemes. The public-private mix is the main equity challenge: while schemes cover less than 14% of the population about 60% of funds are in the private sector
Allocation mechanisms	At present, there is no risk-equalization between individual medical schemes, although it is planned, and so it will increase pooling between individual schemes. However, this will not address the lack of pooling between the tax and medical schemes environments. Tax funds are centrally collected. Funds are allocated from central government to provinces (for all sectors) using a needs-based formula and then each province has autonomy to decide on how it will allocate these funds to individual sectors (e.g. health and education) – i.e. South Africa has a 'fiscal federal' system.

(Table 1, cont.)

Purchasing	
Benefit package	Those using tax-funded health services have a relatively comprehensive benefit package. No set of services are specified; instead South Africans have access to a full range of health services from those provided at primary care clinics through to those provided at highly specialized hospitals. Certain very expensive services (such as dialysis and organ transplantation) are implicitly 'rationed' through resource constraints. All medical schemes have to cover services in the PMB package, which includes inpatient care, certain specialist services and care for most chronic conditions. Each scheme offers different benefit options, which include the PMB and various other services. While schemes may not charge co-payments on services in the PMB, there are considerable co-payments on other services and large out-of-pocket payments for care outside the benefit package.
Provider payment mechanisms	Public sector facilities are allocated budgets and staff are paid salaries. Private providers are paid on a fee-for-service basis. Some general practitioners have accepted capitation payments from medical schemes that serve lower income groups. There are a few private primary health care 'clinics' where staff are paid on a salary basis. Most private hospitals bill on a fee-for-service basis, but some have agreed to per diem payments with a limited number of schemes.
Provision	There is an extensive and well-distributed network of public sector primary health care facilities. Hospitals are less well-distributed (there is an average of 400 people per public hospital bed), with specialist services being heavily concentrated in certain provinces. The number of health professionals working in the public health sector is very low relative to the population it serves (e.g. there are about 4 200 people per general doctor, 10 800 people per specialist, 620 people per nurse and 22 900 people per pharmacist in the public sector). The private health sector is very large but is heavily concentrated in the large metropolitan areas. There are 3 very large private hospital groups (there is an average of 190 people per private hospital bed). The majority of health care professionals work in the private sector, despite serving the minority of the population (e.g. there are about 590 people per general doctor, 470 people per specialist, 100 people per nurse and 1 800 people per pharmacist in the private sector).
United Republic of Tanzania	
Revenue collection	
Source of funds	Donors account for about 23% of total health care resources and nongovernmental organizations account for 5%. Households bear a large burden of total health care financing. Exemptions for priority groups, e.g. under-fives, pregnant women, the poor and those with selected illnesses.
Contribution mechanisms	General tax revenue is generated from: international trade/import and export duties (45% of total tax revenue); VAT (16%); personal income tax (14%); company tax (10%); and a range of other taxes and levies (excise duties, other domestic taxes and charges, other income tax – combined accounting for 15%). Personal income tax is structured progressively with zero tax for low-income earners [i.e. those with yearly incomes of less than 960 000 Tanzanian shillings (Tsh) per annual]. The marginal tax rate ranges from 18.5% for the lowest-income taxpayers to 30% for the highest-income tax payers. Company tax is charged at a flat rate of 30% of company profits. VAT is charged at 20%, but a number of items are exempt from VAT. Compulsory prepayment schemes: The NHI fund is compulsory for all public servants. The contribution rate is 6% of salaries, which is shared equally between the employer and the employee. For private employees, there is a compulsory contribution of 20% of their salary to the NSSF. This contribution is shared equally between the employee and employer. NSSF has recently introduced a Social Health Insurance Benefit as part of its benefit package. Voluntary prepayment schemes: There is limited private voluntary insurance for formal sector employees, accounting for 3% of total health care financing. A form of community-based health insurance, the CHF was introduced in all districts on the advice of The World Bank and under the directive of the Ministry of Health and Social Welfare. Contributions to these schemes, usually flat rates, are decided by the community and vary from one council to another. Revenues from members' contributions are matched by a 100 % grant from the government. Out-of-pocket payments: User fees exist in all public facilities (from primary to referral level). Fees are differentiated by level of care, with low fees at primary level and higher at referral level. Those covered by prepayment schemes do not pay user fees, except for services outside the benefit package. User fee exemptions include: children aged less than 5 years; pregnant women; selected diseases/conditions. There are fee waivers for the poor, but implementation is weak. Out-of-pocket payments are also made to private primary care providers.
Collecting organizations	Tax is collected by the Tanzanian Revenue Authority. Health insurance contributions are collected directly by either the NHI fund or the NSSF. Each has boards, which oversee the operation of the funds. CHF contributions are collected at facility level and are kept in a CHF account which is managed by the district council. User fees are collected by health facilities and deposited into the CHF account for primary health care facilities and into the health services fund for hospitals.

(Table 1, cont.)

Risk pooling	
Coverage and composition of risk pools	CHF covers residents of rural areas (where 80% of the population lives) but covers less than 1% of the total population. Each council operates their CHF in isolation, which limits the extent of risk pooling. NHI fund covers public employees and their dependants (not exceeding 5 per member). This scheme covers around 5% of the total population. The NSSF is a recent development and covers less than 1% of the population. By targeting private sector workers, the potential scope of coverage is much larger. The majority of the population (low-income formal sector workers, informal sector workers, the unemployed and the poor) is dependent on health services which are funded through tax revenue and user fees, particularly at hospital level (some pay out-of-pocket for primary care in the private sector).
Allocation mechanisms	Tax funds are centrally collected. Allocation between sectors is based on government priorities, which include education, health and infrastructure. A needs-based resource allocation formula guides allocations to districts for primary health care and district hospitals. Regional authorities are allocated funds for regional hospitals. There is no risk equalization between the different prepayment financing schemes or between the two mandatory schemes (although there is some discussion about the latter).
Purchasing	
Benefit package	The government, through tax revenue, subsidizes all services provided by public facilities. The NHI fund covers both inpatient and outpatient care in its benefit package, but has spending limits. Public facilities are the main providers of services to NHI fund beneficiaries, comprising about 86% of total accredited health facilities (although they account for only 50% of the benefit payments). While blanket accreditation has been provided to all public health facilities, private facilities need to apply individually. The CHFs only cover services at primary level facilities. A few councils have managed to expand coverage to include hospital level services.
Provider payment mechanisms	NHI fund: Providers are paid on a fee-for-service basis, within 60 days of submitting a bill. Payments to public hospitals are deposited into the Health Service Fund, while those for primary care facilities are paid to the CHF and are used according to the district health plan. NSSF and private voluntary insurance reimburse on a fee-for-service basis. Public facilities prepare budgets, which are compiled by the district/council management. There are frequently delays in disbursement of funds. In the case of CHFs, accredited non-government facilities are supposed to claim the actual costs incurred in treating CHF members (cost-recovery fee-for-service).
Provision	Government remains the main provider of health services and owns about 64% of all health facilities. About 87% of all facilities are dispensaries; health centres and hospitals account for about 9% and 4%, respectively. About 45% of the population live within 1 km of a health facility, 72% within 5 km and 93% within 10 km. Nongovernmental organizations and private facilities account for about 17% and 15% of health facilities respectively. Private facilities are mostly located in urban areas. Government is the main employer of health workers. Overall, 65% of the 54 200 health workers in 2002 were located in the public sector, 22% in private not-for-profit and 14% in private-for-profit sectors. The estimated ratios of currently active professionals per 100 000 population, are approximately 40 for nurses, 3 for physicians and 25 for all medical cadres (i.e. medical officers, assistant medical officers and clinical officers).

CHF, Community Health Fund; DMHIS, District Mutual Health Insurance scheme; NHI, National Health Insurance; NSSF, National Social Security Fund; PMB, prescribed minimum benefit; SSNIT, Social Security and National Insurance Trust; VAT, value added tax.