



**Division of Health Systems and Public Health
WHO Regional Office for Europe**

Analysis of options for purchasing market structure under the NHS

**Support to the Health Reform Programme
of the Government of Cyprus**

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FINAL REPORT

Analysis of options for purchasing market structure under the NHS

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We are especially grateful to Ian Pett, Senior Strategy Advisor in the WHO-led Implementation Support Team in Cyprus, for vital support throughout the preparation of the report; to Natassa Papayianni and Anastasia Anthousi of the Ministry of Health for their enormous help with logistics while we were in Nicosia in November 2014; and to Tamás Evetovits for valuable advice and feedback during the writing of the report.

List of abbreviations and acronyms

DRG	diagnosis-related group
EFTA	European Free Trade Area
EU	European Union
GDP	gross domestic product
HIO	Health Insurance Organisation
IAC	Insurance Association of Cyprus
ICCS	Insurance Companies Control Service
MOH	Ministry of Health
NHS	National Health Scheme
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket payment
PHI	private health insurance
UK	United Kingdom
US	United States
VHI	voluntary health insurance
WHO	World Health Organization

Summary of the report

The rationale for the NHS

The Ministry of Health (MOH) is embarking on a major reform of the health system in Cyprus. In December 2014 it published draft legislation for a new National Health System (NHS) to be implemented in 2015-2016. The NHS aims to address a wide range of performance problems relating to financial protection, equity, efficiency and quality in service delivery, responsiveness and administrative efficiency.

Reforms taking place alongside the introduction of the NHS also aim to improve health system performance through the introduction of information systems, greater autonomy for and better management of public hospitals, more effective provider payment mechanisms and stronger primary care. These complementary developments are needed to ensure the successful implementation of the NHS. With the NHS, they add up to an ambitious programme of reform intended to improve the financial sustainability of the health system, to enhance the effectiveness of the health workforce and to bring many benefits to the permanent residents of Cyprus.

There is no doubt about the need for change. Cyprus spends less publicly on the health system than any other EU member state, both in terms of share of GDP and share of the government budget. The very high level of out-of-pocket payments (OOPs) in Cyprus undermines financial protection and equity in financing. High OOPs are driven by the low priority given to the health sector in public resource allocation decisions, gaps in population coverage and weak incentives for efficiency and quality in service delivery. Underfunded and overstretched public general hospitals have come under additional pressure due to the effect of the crisis on people's health care-seeking behaviour. This has probably exacerbated inequalities in access to specialist and inpatient health services. There is evidence of rising unmet need due to cost since 2008.

The purpose of this report

In Cyprus the purchasing function – broadly defined as the allocation or transfer of pooled funds to health service providers – is fragmented, underdeveloped and characterised by weak methods of paying providers. Previous plans for and legislation on the NHS¹ envisaged a separation of purchasing and provision and a single purchasing agency, leading to the creation of the Health Insurance Organization (HIO), an arm's length body, in 2006. To date, however, the NHS reform has not been fully implemented and the HIO does not yet play a role in purchasing.

An amendment to the draft NHS law enables the Minister of Health to consider a 'transformation to a mixed system that allows participation by more than one

¹ The General Health Care Scheme Law of 2001 (N.89(I)/2001).

insurance body, if it provides extra benefits for citizens and meets the fundamental principles of the system'.² It is in the context of this amendment that the MOH in Cyprus requested the WHO Regional Office for Europe to prepare an assessment of the requirements, advantages and risks associated with operating the NHS through multiple competing purchasers versus through a single purchaser, with analysis of the following options:

1 HIO as the single purchasing agency

2 Competition among multiple purchasing agencies (private insurers)

3 Competition between the HIO and private insurers

Option 1 is the post-reform baseline. It provides all residents with mandatory, publicly financed and nationally uniform benefits and envisages the HIO as an independent purchasing agency with substantial leverage over providers, the ability to benefit from economies of scale and low administrative costs.

Options 2 and 3 will provide all residents with mandatory, publicly financed and nationally uniform benefits, but will involve the use of an additional instrument intended to stimulate performance improvement through stronger purchasing: offering people choice of purchasing agency to enable private insurers to compete for beneficiaries under the NHS.

Under option 3, competition between the HIO and private insurers could be seen either as a transition to option 2 or as a permanent feature. If private insurers are unable to expand rapidly enough, the HIO could temporarily cover a share of the population. Conversely, the HIO could be regarded as a permanent 'safety net', required to take on the enrollees of private insurers that go out of business (a role that could equally be carried out by private insurers).

The premise of this analysis is that the government aims to strengthen the purchasing function by encouraging *active* purchasing. Active purchasing implies that the allocation of resources to providers depends in some way on the health needs of the beneficiary population and on information about provider performance. Without a stronger purchasing function, the health system in Cyprus will find it difficult to make better use of available resources.

The analysis focuses mainly on the perspective of the government, but also considers implications for private insurers and, to a lesser extent, implications for health care providers.

For all three options, we assume the following design features:

- mandatory coverage of all permanent residents with a comprehensive and uniform benefits package financed through income-related pre-payment
- central collection and central pooling of public funds for the health system

² Draft act amending the general health system, Article 12, unofficial translation.

- open enrolment providing lifetime cover (guaranteed renewal), cover of pre-existing conditions and portability of benefits for the uniform benefits package
- centrally determined policy on a uniform benefits package, user charges, provider payment, prices and priority setting
- patient choice of contracted public or private provider
- a continuing role for voluntary health insurance (VHI) offered by private insurers

Purchasing market structure: theory and international experience

Countries in Europe vary widely in how they approach and encourage better purchasing of mandatory health benefits. In the last thirty years, many have introduced a purchaser-provider split and tried to foster a strong, single purchasing agency (option 1). A few countries have introduced competition among purchasers, mainly those that already had multiple health insurance funds (option 2). No European country has tried option 3.

Competition among purchasers is driven by two mechanisms that aim to encourage responsiveness and result in active purchasing: giving people free choice of purchaser and making purchasers bear financial risk. In theory, at least three broad areas of conditionality must be met for this form of competition to be effective:

- *Consumer mobility*: People should be able periodically to switch from one purchaser to another with ease and without incurring significant transaction costs, especially people with one or more chronic conditions, who account for a substantial share of spending on health care.
- *Fair competition based on cost and quality, rather than risk selection*: This requires a sophisticated risk adjustment mechanism – a means of ensuring financial allocations to purchasers match the expected health care costs of their enrollees. Without good risk adjustment, purchasers have incentives to enrol low-risk people and deter high-risk people from enrolling (risk selection). The ability to select risks dampens incentives for active purchasing.
- *Purchasers should have access to instruments that allow them to influence health service quality and costs through leverage over providers*, the most important of which is selective contracting – being able to contract selected providers that meet specified criteria rather than having to contract all providers.

None of the European countries with purchaser competition (Belgium, the Czech Republic, Germany, the Netherlands, the Russian Federation, the Slovak Republic and Switzerland) has successfully met all of these preconditions, in spite of having at least twenty years of experience. Although they all use risk adjustment, so far only Belgium, Germany and the Netherlands have been able to develop sophisticated risk adjustment formulas. The generally slow pace at which countries have strengthened risk adjustment is due to lack of data and information systems in some instances. It also reflects regulatory capture – government failure to act as a

result of resistance and lobbying by purchasers. In the absence of robust risk adjustment, incentives to enhance efficiency and quality are limited.

Health systems with a single purchaser can also fail to put in place the right incentives to improve efficiency and quality, leading to poor performance. Internationally, neither approach has been shown systematically to out-perform the other in delivering cost-effective health services. The implication for policy is not, therefore, that one approach is necessarily better or worse than the other. Rather, it is that the introduction of purchaser competition (or a purchaser-provider split) does not *guarantee* active purchasing and stronger performance. In *any* health system, two factors are critical to improving performance through better purchasing: first, the government needs to ensure purchasers have the authority, incentives, information and instruments needed for active purchasing; and second, it needs to create a transparent, consistent and stable environment within which active purchasing can flourish.

It is difficult to find examples of health systems in which public and private insurers compete with each other to offer mandatory health benefits for the whole population under identical or very similar conditions (option 3), an approach that has not been adopted in any European country, only in some countries in Latin America. The few examples we have identified share serious problems: inadequate risk adjustment; risk segmentation, in which the public purchaser covers a disproportionate share of older, sicker and poorer people; significant fiscal pressure for the public purchaser; and, as a result, inequalities in financial protection and access to health care.

The international experience suggests that a system involving competition among purchasers is technically much more complex than a system with a single purchaser and involves higher transaction and administrative costs. These disadvantages need to be weighed against the advantages of giving purchasers strong incentives to be responsive to beneficiaries.

Option 1: HIO as the single purchasing agency

This option offers the significant advantage of a unified risk pool for equity, efficiency and lower transaction costs. Under the NHS, the HIO will have substantial leverage over providers, giving it opportunity to influence health care quality and costs and to hold providers to account. There is also more scope for policy action by government – for example, to control expenditure growth.

Option 1 involves a number of risks and requires carefully designed governance arrangements to ensure effectiveness and accountability.

Implications for government: Option 1 presents four main challenges for the government. First, it will be necessary to articulate a clear distinction between the competencies of the MOH and those of the HIO. Second, there is a need to define governance arrangements that strike a balance between the ministry's overall responsibility for health system performance and the HIO's ability to do its job

without undue political interference; where there is only one purchaser, there may be greater potential for tension and conflict between the purchaser and the MOH. Third, the government will need to find effective ways of ensuring the HIO is responsive to the needs of its beneficiaries. Fourth, the government should establish a national IT system to handle provider payment and generate information for active purchasing.

Implications for private insurers: The VHI market in Cyprus is currently financially healthy and profitable. It also has very high administrative costs by international standards: less than two-thirds of the revenue from VHI premiums are spent on health services. How much private insurers will be affected by the introduction of the NHS depends on whether people view VHI as offering good value for money once they are required to contribute to the NHS. This will in turn be influenced by the ability of private insurers to develop cheaper products and new products that respond to gaps in NHS coverage or weaknesses in NHS performance.

Under the NHS, the market for VHI is likely to experience an initial decline in the number of subscribers. At the same time, it is likely that a core group of people will continue to purchase VHI to benefit from services not covered by the NHS, obtain treatment abroad or maintain access to private providers outside the NHS. Private insurance will also continue to be a requirement for non-permanent residents from countries outside the European Union. Overall, while the number of people covered by VHI is likely to fall following the introduction of the NHS, there is uncertainty about the degree to which this poses a threat to the viability of the VHI market and the wider private insurance industry.

Option 2: Competition among private purchasing agencies

Giving people choice of purchasing agency is a strong incentive for making purchasers responsive to public expectations about factors that are easy to measure and compare (for example, waiting times and the range of contracted providers). The threat of enrollee exit may also encourage more active purchasing. In addition, where beneficiaries' contractual entitlements are legally binding, there may be a stronger guarantee of timely access to health care.

These advantages will only be realised, however, if a set of demanding requirements can be met. Option 2 therefore involves a number of risks. It adds considerably to the overall complexity of the health system, implying higher transaction costs and – without further intervention – lower levels of transparency. Most of the other risks are a direct consequence of this complexity.

Implications for government: Option 2 presents challenges for the government in the following areas: capacity to manage a highly complex system; developing sophisticated risk adjustment; dealing with legal uncertainty; ensuring consumer protection (information, transparency and solvency requirements); and addressing fiscal concerns.

Introducing purchaser competition will change the role of government in the health system and stretch the government's capacity and resources. It will involve a large amount of preparatory work and additional skills and resources to manage the system once it is operational. This is likely to be challenging in Cyprus for two reasons.

First, Cyprus does not have a history of governing multiple purchasing agencies offering publicly financed health benefits, in contrast to Belgium, Germany, Israel, the Netherlands and Switzerland. The government will have to invest in an explicit definition of health care entitlements. It will also have to establish new rules to regulate purchaser competition, protect consumers, ensure consumer mobility and minimise risk selection, including sophisticated risk adjustment and the separation of mandatory and voluntary health insurance business.

Second, Cyprus does not yet have the information systems and payment mechanisms (diagnosis-related groups, DRGs) needed for sophisticated risk adjustment. Without robust risk adjustment, purchaser competition is unlikely to result in active purchasing or greater responsiveness to the beneficiaries that matter.

Although Cyprus is developing a national IT system and preparing to introduce DRGs, both will take time to establish. Once these are operational, at least two years of health care data – and the ability to link individual-level health, health care and socio-economic data – are needed for a risk adjustment formula that is sophisticated enough to minimise risk selection and enable private insurers to bear financial risk. The government could try to develop a relatively sophisticated risk adjustment mechanism in a shorter period of time (for example, a year), but there are no examples of countries that have succeeded in doing this. As a transitional corrective measure, a cruder risk adjustment formula could be accompanied by ex-post compensation of a share of purchasers' health care spending. Ex-post compensation lowers incentives for risk selection and dampens incentives to enhance efficiency. International experience also suggests that, due to the possibility of regulatory capture, sophisticated risk adjustment is easier and quicker to implement if it is developed *before* the introduction of purchaser competition than if it is developed once competition is already in place.

The use of private insurers under the NHS subjects the system to European Union (EU) law, creating a degree of legal uncertainty.

Ensuring consumer protection may be a challenge. Studies suggest that countries with competitive purchasing have not paid enough attention to information and transparency. Higher-risk people face higher transaction costs when moving from one purchaser to another and consistently find it more difficult to switch than people without health problems. This may dampen purchaser incentives to provide good quality care for higher-risk people.

The government will have to ensure public scrutiny of the activities and performance of the HIO and public and private health care providers under option 1. Under option 2 this requirement is even stronger if purchasers are to have incentives

to improve quality, because differences in quality across purchasers and providers ought to be a key driver of enrollee and patient choice.

Solvency is an issue in a system involving private insurers. The level of solvency required depends in part on the sophistication of risk adjustment (the more sophisticated the formula, the lower the likelihood of health risk-related insolvency) and, to a lesser extent, on the size of the population.

Finally, the government will need to be proactive in developing instruments to address fiscal concerns arising from its more limited ability to control spending on health in a competitive system.

Implications for private insurers: Option 2 has implications for private insurers in terms of regulation, oversight and public scrutiny; administrative costs; and market consolidation. Under the NHS, private insurers will be subject to stringent regulation and oversight and a much greater degree of public scrutiny and transparency than is the case at present.

They will not be able to sustain their high administrative costs – around 35% of revenue, including profit – and will have to work hard to bring them down to meet the cap of 5% of revenue the government currently plans to apply to the HIO. Market consolidation will help, but private insurers will also need to move away from the current business model of low numbers of enrollees, high operating costs and high margins towards a model based on a much higher number of enrollees, much lower operating costs and lower margins. The design of the NHS will play a role in lowering administrative costs – for example, there will be no need for underwriting for mandatory benefits. However, if NHS design and market consolidation are not sufficiently effective, the government may have to introduce a minimum level of premium income to be spent on health care or a cap on administrative costs.

Significant market consolidation under the NHS is inevitable and desirable. A market with more than a handful of purchasers will result in small risk pools, threatening consumer protection. Active purchasing requires risk pools involving at least 150,000 to 200,000 people. Having too many purchasers also undermines transparency and the effectiveness of enrollee choice. The Netherlands has 11 insurers covering a population of close to 17 million people; in 2013 the four largest insurers had a market share of about 90%, covering around 15 million people. To achieve viable risk pools in Cyprus, the government will have to limit the number of insurers able to participate in the NHS to around five or six.

In a competitive system, health business should be separated from other lines of insurance business to protect data privacy and prevent risk selection in the market for mandatory health benefits and across lines of insurance business. The government will need to ensure consumers are aware of their rights so that there is no possibility for insurers to link the sale of mandatory health benefits and VHI.

Option 3: Competition between the HIO and private insurers

Option 3 enables a transition period in which the HIO covers a part of the population if private insurers do not have adequate solvency to cover the whole population. Alternatively, it allows the HIO to offer a safety net in case risk adjustment is initially weak due to lack of data, which would encourage risk selection by private insurers and increase the likelihood of insolvency.

Operationalising such a transition and creating a level playing field for the HIO and private insurers involves significant challenges.

Option 3 shares the risks associated with option 2, as set out above. It also involves the additional risk of segmenting the population by health, age or income status, with the HIO covering a disproportionate share of sicker, older and poorer people. Without an effective policy response, including additional public funding for the HIO, this could result in two-tier access to health care under the NHS.

Implications for government: To enable private insurers to expand market share more slowly and build up adequate solvency reserves, the government will have to ensure that the HIO covers a share of the population in the early stages of the NHS. This would require changing the NHS law so that it is clear that choice of purchaser will not apply to the whole population initially, but on the basis of explicit criteria – for example, income – effectively segmenting the population *by design*.

In the absence of data good enough for sophisticated risk adjustment, the government could develop a cruder, transitional formula adapted explicitly to favour high-need, high-cost patients or make use of ex-post compensation. A less than robust risk adjustment formula might lead to legal challenge on state aid grounds. The risk of being challenged under EU law is generally greater under option 3 than under option 2, due to the involvement of both public and private purchasers.

If the HIO covers a disproportionate share of higher-risk people by design or because of weak risk adjustment, it will face higher-than-average health care costs and require additional public funding to meet the needs of its enrolees. Without sufficient additional funding, it will have to limit access to health care or lower the quality of care, resulting in a two-tier NHS. The provision of additional public funding may be difficult for fiscal reasons and could also trigger EU legal challenges around state aid.

Over time, it would be possible to address the issue of two-tier access and quality. However, the experience of the Czech Republic – the only country in Europe with something akin to option 3 (an insurer of last resort competing with other quasi-public, self-governing entities) – suggests this may not be straightforward.

The risks of introducing competition before putting in place a sophisticated risk adjustment mechanism may be magnified under option 3, especially if it is regarded as a transition measure. This is because the presence of the HIO as a safety net may lower pressure on the government to strengthen risk adjustment.

A clear implication for option 3 is that it is essential to create and operate a sophisticated risk adjustment mechanism *before* opening up the market to private insurers. Otherwise, the status quo bias of older and sicker people, combined with weak risk adjustment, would almost certainly mean the HIO would not have adequate resources in comparison to its competitors, to the disadvantage of its enrolees. If purchasers have to cope with risk segmentation that is not adequately compensated, they will struggle to improve performance. If they are able to select risks relatively easily, they will not have incentives to enhance quality and efficiency. As a result, some of the critical advantages of the NHS may not materialise under option 3.

Implications for private insurers: A system in which private insurers compete with the HIO works to the advantage of private insurers because it is likely to enhance their ability to select risks and increases the probability of risk segmentation. If the HIO plays a safety net role, there may be less pressure on the government to ensure consumer mobility, consumer protection and fair competition, meaning that private insurers do not experience as much public oversight and scrutiny as they would under option 2. Having said that, it is unlikely that private insurers will be able to continue to operate as at present under option 3. They will still need to prepare for a change in business model and find ways to operate with substantially reduced administrative costs. As under option 2, market consolidation is inevitable and desirable.

Implications for health care providers under all three options

Under all three options the NHS will require adjustment on the part of *private* providers, who are likely to have to accept lower prices in return for higher volume and to operate under a greater degree of oversight and scrutiny, potentially involving monitoring of and public reporting on their performance. *Public* providers will benefit from greater autonomy and will also be subject to greater oversight and scrutiny, including performance monitoring and public reporting. *All* types of providers are likely to be subject to new forms of provider payment that require them to accept a degree of financial risk. This is to be expected in health systems that aim to enhance efficiency and quality through active purchasing.

Conclusions

There are advantages, risks and challenges under all three options examined in this report. No option will be effective in strengthening health system performance without strong government capacity to set priorities, monitor performance and hold stakeholders to account.

If the government introduces competition among purchasing agencies as a policy instrument to strengthen the health system, international evidence and analysis of the current situation in Cyprus suggest it would be advisable to:

- learn from international experience and understand the differences between Cyprus and other countries that use this instrument
- pay careful attention to sequencing; developing a sophisticated risk adjustment mechanism first, before introducing competition, would avoid the costs and major risks to health system performance associated with inadequate risk adjustment
- be aware of the complexity and transaction costs associated with the need for robust risk adjustment, additional regulation and oversight of private insurers and monitoring to ensure fair competition, information and transparency, consumer mobility and consumer protection; and of the potential for fiscal pressure if the requirements for effective competition are not met
- understand the different nature of responsibilities involved in governing purchaser competition and the additional burden it is likely to place on government capacity and resources
- note the potential for EU legal challenges

Being well prepared minimises the need for risky transition measures and enhances the likelihood of achieving outcomes in line with NHS principles.

Whichever option is selected, the government should invest in communicating its rationale and functioning to all health system stakeholders, especially the public.

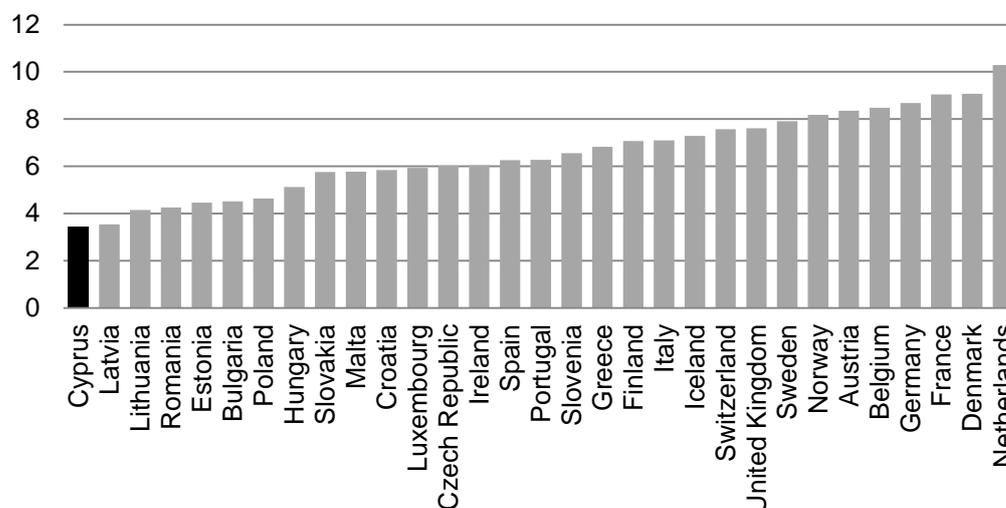
1 The rationale for the NHS reform

The Ministry of Health (MOH) is embarking on a major reform of the health system in Cyprus. In December 2014 it published draft legislation for a new National Health System (NHS) to be implemented in 2015-2016. The NHS aims to address a wide range of performance problems relating to financial protection, equity, efficiency and quality in service delivery, responsiveness and administrative efficiency.

Reforms taking place alongside the introduction of the NHS also aim to improve health system performance through the introduction of information systems, greater autonomy for and better management of public hospitals, more effective provider payment mechanisms and stronger primary care. These complementary developments are needed to ensure the successful implementation of the NHS. With the NHS, they add up to an ambitious programme of reform intended to improve the financial sustainability of the health system, to enhance the effectiveness of the health workforce and to bring many benefits to the permanent residents of Cyprus.

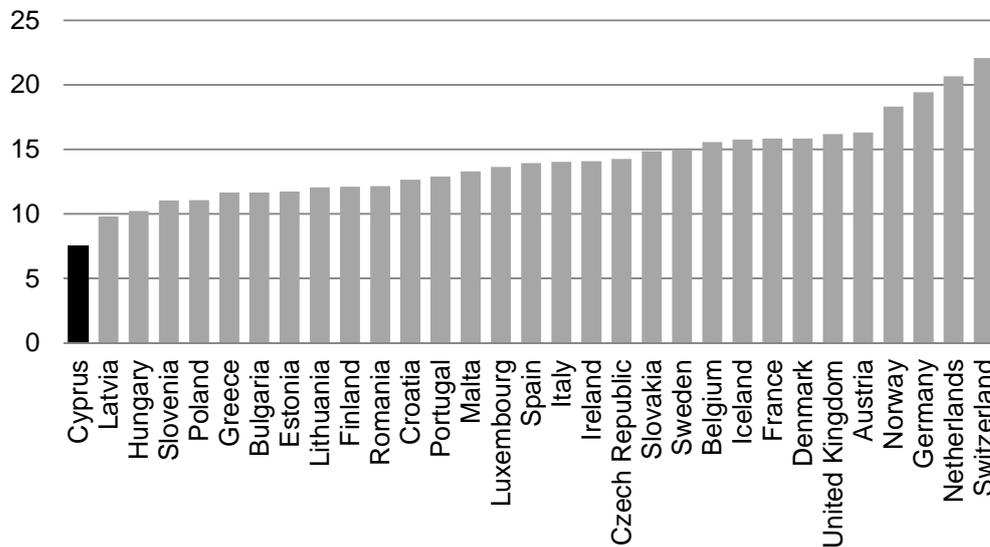
There is no doubt about the need for change. Cyprus spends less publicly on the health system than any other EU member state, both in terms of share of GDP (Figure 1) and share of the government budget (Figure 2). Cyprus is also an outlier when it comes to out-of-pocket payments (OOPs). In 2013 (the latest year for which internationally comparable data are available), the OOP share of total spending on health was higher in Cyprus than in any other EFTA country (Figure 3); among the 53 countries of the WHO European Region, only Albania, Armenia, Tajikistan and Georgia had a higher share than Cyprus. This high level of OOPs is driven by the low priority given to the health sector in public resource allocation decisions, gaps in population coverage and weak incentives for efficiency and quality in service delivery.

Figure 1 Public spending on health as a share (%) of GDP in Cyprus and EFTA countries, 2013



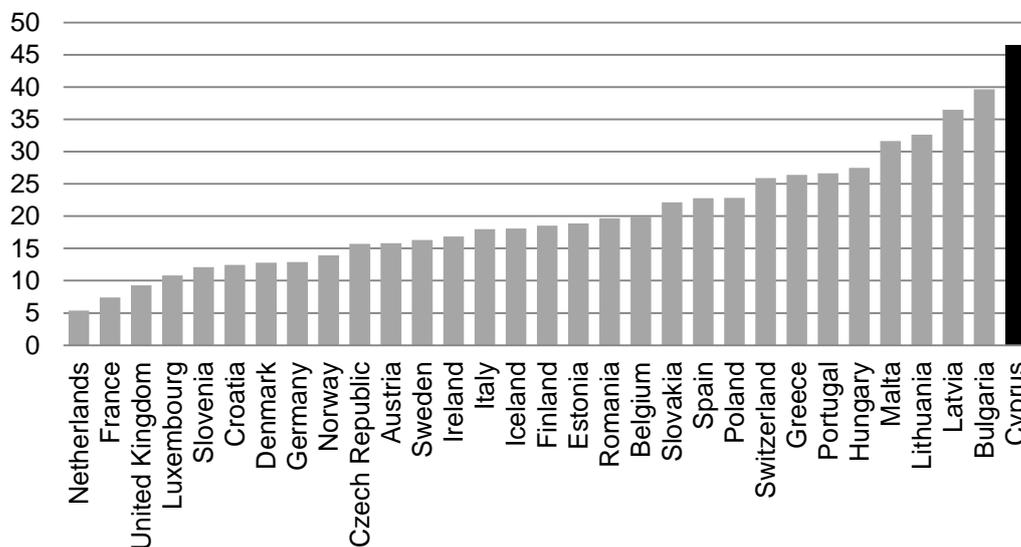
Source: WHO (2015)

Figure 2 Priority to the health sector: public spending on health as a share (%) of total public spending in Cyprus and EFTA countries, 2013



Source: WHO (2015)

Figure 3 OOPs as a share (%) of total spending on health in Cyprus and EFTA countries, 2013



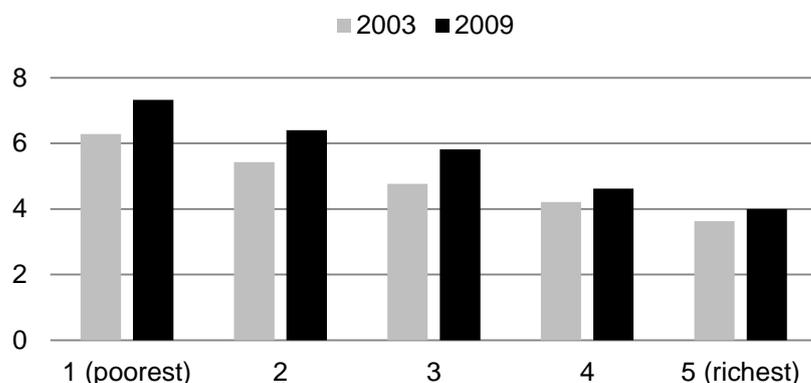
Source: WHO (2015)

High levels of OOPs undermine financial protection for households. International analysis indicates that OOPs reach catastrophic levels once they exceed 15% of total spending on health (Xu et al 2007, WHO 2010).

OOPs are the most regressive form of health financing (Wagstaff et al 1999). Figure 4 shows how the OOP share of household spending in Cyprus has not only increased over time for all income groups, but has also become more regressive, with poorer

households paying a higher share than richer households. Between 2003 and 2009, the gap in share between the poorest and the richest fifth of the population rose from 2.1 to 3.3 percentage points.

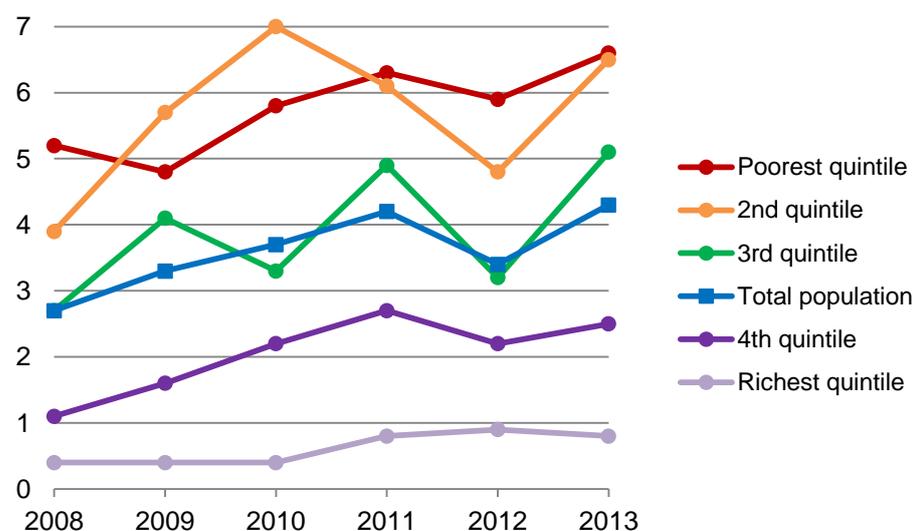
Figure 4 OOPs as a share (%) of total household spending in Cyprus by income quintile, 2003 and 2007



Source: Theodorou et al (2012)

These data suggest that financial protection in Cyprus is weak and that the high share of OOPs makes health system financing inequitable. Other analysis suggests that people in Cyprus experience affordability problems when it comes to using specialists. A Eurobarometer survey carried out in 2007 found that 66% of people in Cyprus reported specialist care to be unaffordable, whereas the average across EU countries was 35%, ranging from a low of 7% in Sweden and Denmark to a high of 78% in Portugal (European Commission 2007). Levels of unmet need due to cost have also risen over time in Cyprus (Figure 5).

Figure 5 Share (%) of the population reporting unmet need due to cost in Cyprus by income quintile, 2008-2013



Source: Eurostat (2015)

Waiting times for publicly provided hospital services (diagnostic tests, outpatient visits and surgery) are high in Cyprus (Theodorou et al 2012, World Bank 2014: 76). There are also concerns about the quality of care in public general hospitals due to limited managerial capacity and very high occupancy rates (the average was around 92% in 2011 in public general hospitals) (World Bank 2014: 72). The crisis has stretched the capacity of public hospitals even further (Theodorou et al 2012). Private hospitals in Cyprus are likely to have much lower rates of utilisation and therefore much lower waiting times than public hospitals, making them an attractive option for those who can afford to pay for them.³

Summary

The very high level of OOPs in Cyprus undermines financial protection and equity in financing the health system. High OOPs are driven by the low priority given to the health sector in public resource allocation decisions, gaps in population coverage and weak incentives for efficiency and quality in service delivery. Underfunded and overstretched public general hospitals have come under additional pressure due to the effect of the crisis on people's health care-seeking behaviour. This has probably exacerbated inequalities in access to specialist and inpatient health services. There is evidence of rising unmet need due to cost since 2008.

³ MOH hospital statistics show that public hospitals have 1.91 nurses per bed and private hospitals 0.63 nurses per bed (MOH 2011: 23-24). Such a large difference is likely to reflect differences in utilisation rates as well as differences in case mix and efficiency.

2 The purpose of this report

In Cyprus, the purchasing function – broadly defined as the allocation or transfer of pooled funds to health service providers – is fragmented, underdeveloped and characterised by weak methods of paying providers (Theodorou et al 2012). Previous plans for and legislation on the NHS⁴ envisaged a separation of purchasing and provision and a single purchasing agency, leading to the creation of an arm's length body, the HIO, in 2006. To date, however, the NHS reform has not been fully implemented and the HIO does not yet play a role in purchasing.

The government recently amended the draft NHS legislation to state that the Minister of Health may consider a 'transformation to a mixed system that allows participation by more than one insurance body, if it provides extra benefits for citizens and meets the fundamental principles of the system'.⁵

It is in the context of this amendment to the draft law that the MOH requested the WHO Regional Office for Europe to provide an assessment of the requirements, advantages and risks associated with operating the NHS through multiple competing purchasers versus through a single purchaser, with analysis of the following options:

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Option 2: Competition among multiple purchasing agencies (private insurers)

Option 3: Competition between the HIO and private insurers

Option 1 is the post-reform baseline. It provides all residents with mandatory, publicly financed and nationally uniform benefits and envisages the HIO as an independent purchasing agency with substantial leverage over providers, the ability to benefit from economies of scale and low administrative costs.

Options 2 and 3 will provide all residents with mandatory, publicly financed and nationally uniform benefits, but will involve the use of an additional instrument to try and stimulate performance improvement through stronger purchasing: offering people choice of purchasing agency to enable private insurers to compete for beneficiaries under the NHS.

Under option 3, competition between the HIO and private insurers could be seen either as a transition to option 2 or as a permanent feature. If private insurers are unable to expand rapidly enough, the HIO could temporarily cover a share of the population. Conversely, the HIO could be regarded as a permanent 'safety net', required to take on the enrollees of private insurers that go out of business (a role that could equally be carried out by private insurers).

⁴ The General Health Care Scheme Law of 2001 (N.89(I)/2001).

⁵ Draft act amending the general health system, Article 12, unofficial translation.

Active purchasing for better health system performance

The premise of this analysis is that the government aims to strengthen the purchasing function by encouraging *active* purchasing. Active purchasing implies that the allocation of resources to providers depends in some way on the health needs of the beneficiary population and on information about provider performance (Figueras et al 2005). It requires the purchasing agency to identify health needs; align the provision of services to those needs; make decisions about which health services to purchase, how and from whom; and monitor the performance of health care providers (WHO 2000). In contrast, passive purchasing involves no more than retrospective reimbursement of provider costs. Without a stronger purchasing function, the health system in Cyprus cannot expect to become more efficient.

Active purchasing is a key instrument for enhancing efficiency and quality in health service delivery. It also influences financial protection for people in two ways (WHO 2010, McIntyre and Kutzin 2014). First, if resources are used efficiently, then the overall level of funding the health system needs will be lower in comparison to where there is inefficient resource use. This in turn lowers the financial burden on households. Second, if pooled funds are not effective in meeting health needs, people will need to seek alternatives and pay (more) out-of-pocket for health care. The scale of a ‘parallel’ system will reflect a range of factors, among them failure to extend publicly financed entitlement to the whole population, failure to generate adequate public resources for the health system and failure to use public resources effectively.

The focus of the report is on the market structure of purchasing

The focus of this report is on the market structure of purchasing – that is, on the comparative advantages and risks of having competing purchasing agencies in the health system versus a single purchasing agency. In our view, these are largely questions relating to the governance of purchasing. Although they also relate to broader health coverage issues, and indeed to issues around health service delivery, they do not have a direct bearing on these aspects – for example, there is no reason to change the way in which revenues are collected and pooled solely in response to changes in purchasing market structure.

Throughout, we therefore assume that the following design features will apply to all three options (and offer some justification for them):

- *mandatory coverage* of all residents with no opting out or exclusion allowed due to the many market failures and other problems associated with voluntary coverage and with a health insurance system segmented on the basis of (for example) income
- financing of comprehensive benefits through *income-related pre-payment* (general or earmarked taxes or a combination) due to the risks to equity, efficiency and financial protection and to the potentially high transaction costs

associated with flat-rate and risk-rated pre-payment (with or without government subsidies)

- *central collection of public funds* for the health system (for example, collection by the national tax agency) due to the higher transaction costs and greater potential for evasion associated with collection by individual purchasing agencies; in general, it is optimal for a purchasing agency to be able to focus on purchasing rather than having to think about enforcing collection
- *central pooling of public funds* for the health system due to the inefficiencies and inequalities in access associated with fragmented risk pooling
- *open enrolment* providing lifetime cover (guaranteed renewal), cover of pre-existing conditions and portability of benefits for the uniform benefits package to ensure financial protection and (under options 2 and 3) consumer mobility; open enrolment also lowers transaction costs for purchasing agencies
- *(centrally) determined policy* on the uniform benefits package, user charges, provider payment, prices and priority setting to enhance transparency and financial protection and to minimise transaction costs for the public, purchasing agencies and health care providers

For each option, we also assume:

- patient choice of contracted public or private provider
- a continuing role for voluntary health insurance (VHI) offered by private insurers

Analytical approach

The report aims to provide the MOH with an independent assessment of the requirements, advantages and risks of different options for purchasing market structure under the NHS. To do this we draw on international and national evidence and expert analysis to:

- describe the comparative advantages and disadvantages of the three options listed above
- review the requirements needed for each option to meet its objectives
- identify the risks associated with failing to meet these requirements and implications for health system performance
- highlight implications for major stakeholders

Some of the information in the report comes from meetings with key stakeholders held in November 2014 (see the appendix). We also draw on studies of the health system in Cyprus; national health system data; reviews of international experience; and international statistical databases.

Our comparison of the three options focuses mainly on the perspective of the government and its desire to strengthen the health system in the interests of the permanent residents of Cyprus. However, some of the stakeholders we spoke to expressed concern about the future of the private health insurance (PHI) industry under option 1. For this reason – and because of the large role private insurers would play under options 2 and 3 – we also consider the implications of each option for private insurers. We touch on implications for health care providers.

Mandatory health insurance can be distinguished from voluntary health insurance (VHI). Public or private entities can, in theory, provide both forms of insurance. In Cyprus, VHI is currently offered by private insurers. It is likely to continue to play a role under all three options, since no option prohibits VHI and all countries have some kind of VHI market. Under option 1, private insurers would offer supplementary or complementary VHI (see Table 8 in section 5 for definitions). Under options 2 and 3 the sale of mandatory health insurance and VHI would need to be separated.

Content and structure of the report

The next three sections provide background information for the analysis of the three options. Section 3 reviews some important governance issues relevant to purchasing market structure and summarises lessons from international experience. It focuses in particular on international experience of competition among purchasing agencies. Section 4 reviews the importance of risk adjustment in enabling purchaser competition to meet its objectives. Section 5 describes the way in which the market for VHI operates at present. Sections 6, 7 and 8 look in detail at each of the three options. Section 9 compares options 1-3 and sets out the associated advantages, risks and implications for health system performance. Section 10 concludes the report.

3 Purchasing market structure: theory and international experience

This section describes broad differences in purchasing market structure in European health systems, discusses some issues around the governance of the purchasing function and reviews the experience of countries in which purchasers compete to offer mandatory health benefits.

Purchasing market structure in Europe

Table 1 categorises health systems in Europe (EFTA countries) according to the three options being considered in Cyprus. Most countries separate purchasing from health care provision and do not give people choice of purchaser (option 1). Usually, there is a single purchaser for the whole (or almost the whole) population. Only six EFTA countries – eight if we consider the WHO European Region of 53 countries – have experience of competition among purchasing agencies for a mandatory, publicly financed benefits package (option 2): Belgium (since 1944), the Czech Republic (1992), Germany (1992), Israel (1995), the Netherlands (1991 and 2006), the Russian Federation (1993), the Slovak Republic (1994) and Switzerland (1911 and 1996) (Thomson et al 2013, Kutzin et al 2010).

None of these European countries has experience of competition between public and private insurers for mandatory health benefits for the whole population (option 3), although Germany has a form of public-private competition for higher earners under the age of 55 and in the Czech Republic one purchaser plays a safety net role as an insurer of last resort and therefore has slightly different governance arrangements from the others. Outside of Europe, Chile comes closest: residents can choose to direct a mandatory wage-related contribution to the national health system or to a private insurer.

A question of governance

The question we consider in this report is whether the three options put forward by the government are likely to be effective, in Cyprus, in promoting efficiency and quality in service organisation and delivery through stronger purchasing. This can be seen as a question of governance. Governance of the health system involves three functions – setting priorities, monitoring performance and ensuring accountability – as shown in Table 2 (Smith et al 2012).

Table 1 International examples of purchasing market structure based on the options being considered in Cyprus, EFTA countries, 2015

Option	Country examples
1 No population choice of purchaser for mandatory health benefits	<p>Countries with a purchaser-provider split: Austria, Bulgaria, Croatia, Estonia, France, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovenia, Spain (some regions), Sweden (some regions), UK (England)</p> <p>Countries without a purchaser-provider split: Cyprus, Denmark, Finland, Ireland, Malta, Spain (some regions), Sweden (some regions), UK (Northern Ireland, Scotland, Wales)</p>
2 Population choice of purchaser for mandatory health benefits	Belgium, Czech Republic, Germany, Netherlands, Slovakia, Switzerland
3 Population choice of public or private purchaser	None

Source: Authors' update of Thomson et al (2009)

Table 2 Health system governance functions

<p>Setting priorities for improving health and health system performance: articulating a clear set of goals for the health system, defining targets or standards and systematically allocating (limited) resources to enable these goals, targets and standards to be met</p>
<p>Monitoring the performance of health system actors and assessing their progress in meeting defined goals, targets and standards; this involves agreeing national performance indicators, establishing a national reporting framework and collecting, analysing and disseminating information</p>
<p>Ensuring actors are held to account through mechanisms such as electoral processes, competition (and choice), payment or accreditation systems or professional oversight; the mechanisms used need to be aligned</p>

Source: Adapted from Smith et al (2012)

A key distinction between options 1 and 2 lies in the nature of the mechanisms used to hold actors – in this case, purchasing agencies – to account. Options 2 and 3 rely heavily on choice of and competition among purchasing agencies, while option 1 places more weight on electoral processes and a form of professional oversight through stakeholder participation. Options 2 and 3 might be more responsive to consumer preferences, while option 1 might be more responsive to broader (political) concerns, including fiscal sustainability and equity.

There is no clear answer to the question of which accountability mechanisms are optimal (Smith et al 2012). Countries vary widely in how they approach and encourage better purchasing. Differences in context and in the detail of policy design are of critical importance. Empirical analysis finds there is greater variation – in terms of performance – *within* groups of health systems with similar characteristics than there is *across* groups (Joumard et al 2010). No one 'type' of

health system – or one particular accountability mechanism – systematically outperforms another in delivering cost-effective health services.

Issues common to all three options

Table 3 summarises some key dimensions of effective governance of purchasing agencies (Savedoff and Gottret 2008). Four points are worth emphasising. First, the significance of coherent governance – what matters is that the financial and non-financial incentives established through the use of a particular set of accountability mechanisms should be aligned with each other and with the health system performance priorities set by government.

Second, government plays a critical role in ensuring that purchasing agencies have the authority, information and instruments they need to engage in strategic purchasing. Without these vital elements, purchasing is unlikely to develop in the desired direction.

Third, the need for government to create a transparent, consistent and stable environment within which purchasing can flourish. Transparency protects against corruption, while consistency and stability minimise uncertainty and enable long-term decision making.

Finally, regardless of purchasing market structure, developing an effective purchasing function takes time. While some positive effects may be seen immediately, others are more contingent on the purchaser developing skills and learning from experience.

Table 3 Dimensions of effective governance of purchasing agencies

Coherent decision-making structures
Purchasers are endowed with the discretion, authority, tools and resources needed to fulfil their responsibilities and face consequences for their decisions that align their interests with the overall performance of the health system; includes issues of ownership and legal status
Stakeholder participation
Some opportunity for stakeholders to affect decision making through direct or indirect representation
Transparency and information
The basic elements of the system are clearly stated and disseminated to the public and the public and interested parties know what is being done by whom
Supervision and regulation
The nature and extent of supervision and regulation will depend on health system priorities and on purchasing market structure
Consistency and stability
Establishing credible ‘rules of the game’ and transparent mechanisms for changing these rules

Source: Adapted from Savedoff and Gottret (2008)

Issues specific to competition among purchasing agencies (options 2 and 3)

Competition among purchasing agencies is a complex policy instrument driven by two mechanisms: a) giving people free choice of insurer and b) making insurers bear financial risk. The threat of consumer exit encourages insurers to be more responsive to public preferences; if people are sensitive to cost or quality, insurers will try to maintain or improve quality while minimising costs using a range of tools, including cutting overheads and engaging in strategic purchasing of health services. Having a prospectively determined budget within which to meet enrollee health care costs may encourage purchasers to use resources carefully; if they cannot stay within budget they will have to increase contribution rates or lower quality. With either strategy they risk losing enrollees.

In theory, at least three broad areas of conditionality must be met for this form of competition to be effective (van de Ven et al 2013, Thomson et al 2013, van Ginneken et al 2013):

- **Consumer mobility (people should be able periodically to choose and switch from one purchaser to another with ease and without incurring significant transaction costs)** – particularly people with one or more chronic conditions, who account for a substantial share of spending on health care. This requires the following policies to be in place: open enrolment, coverage of pre-existing conditions, pre-payment (contributions or premiums) that are not linked to risk of ill health, *a defined and nationally uniform benefits package for transparency and to enable price comparisons*, fully portable benefits, sophisticated risk adjustment to compensate insurers for covering high-risk individuals and *good comparative information about insurers and providers*. Without good comparative information, insurers and providers may skimp on service and care quality.
- **Fair competition based on cost and quality, rather than risk selection:** In practice, this means *purchasing agencies should bear a substantial degree of financial risk* and there needs to be a *sophisticated risk adjustment* mechanism in place to minimise incentives for purchasers to engage in risk selection (trying to enrol low risks and deter high risks from enrolling). The requirement for robust risk adjustment is magnified where risk pools are likely to be relatively small. Fair competition requires a *contestable market* – that is, without unnecessary barriers to enter or leave the market. Subsidies to some but not all insurers (or providers) would constitute a barrier to entry and exit. Fair competition also requires *effective regulation to prevent anti-competitive behaviour*.
- **Purchasers should have access to instruments that allow them to influence health service quality and costs through leverage over providers (active purchasing):** The most important tool is selective contracting, in which purchasers have the freedom to determine which providers to contract and on what terms. Other tools include vertical integration with providers, linking provider payment to performance, care pathways and clinical guidelines,

incentives for rational prescribing, formularies for pharmaceuticals, utilisation review, public disclosure of provider performance etc.

Even though the eight countries in the WHO European Region with competition among purchasing agencies each has over twenty years of experience, none of them has successfully met all of the preconditions noted above. A recent article comparing the four western European countries and Israel concluded that the Netherlands came closest (van de Ven et al 2013).

The following paragraphs summarise findings from international reviews of the extent to which important preconditions for effective purchaser competition are in place in European health systems.

Consumer mobility

Most countries are able to facilitate some transparency in the purchaser market through having a uniform benefits package and making available comparative information on the price of the benefits package and on consumer satisfaction with purchasers. However, most fail to provide enough effective comparative information on the quality of health services (van de Ven et al 2013).

In several countries, purchasers are able to link the sale of mandatory benefits and voluntary health insurance (VHI) – a process known as ‘conditional sale’ – even though there is legal separation between mandatory health insurance and VHI. Conditional sale can be used to select risks for VHI and mandatory benefits and may therefore undermine consumer mobility for mandatory benefits, especially among higher-risk people and where a relatively large share of the population has VHI (Paolucci et al 2007, van de Ven 2013). Where VHI premiums reflect risk of ill health and insurers can link the sale of mandatory and voluntary health insurance, higher-risk people will find it much harder to switch insurer for mandatory benefits because of having to pay higher premiums for VHI (as they are older and may have developed conditions since last enrolling for VHI) or due to fear of being rejected outright (where there is no open enrolment for VHI).

One other factor is relevant. In the Netherlands, purchasers are allowed to offer discounts to groups of people. The maximum discount allowed is 10% of the community-rated premium (see Table 4). Purchasers generally prefer group contracts and, in the Netherlands, use them to buy volume. Although most group contracts are open to relatively diverse risk pools (employers, union members etc), some target low-risk groups such as students and people with a university degree.

Fair competition

Table 5 shows the extent of variation across WHO European Region countries in the degree of financial risk borne by purchasers and in the sophistication of the risk adjustment mechanism. All eight countries introduced risk adjustment in the early to mid-1990s but, in spite of improvements in most countries in recent years, only three have a risk adjustment mechanism that could be considered to be sophisticated (Belgium, Germany, the Netherlands) (Buchner et al 2013, Thomson et al 2013, van de Ven et al 2013).

Table 4 Benefits and pre-payment in health systems with competing purchasers in the WHO European Region, 2015

Country	Uniform benefits package	Income- or wage-related contributions	Purchasers allowed to set and charge additional community-rated premiums
Belgium	✓	✓	Yes, very small (around €20 per year)
Czech Republic	✓	✓	x
Germany	✓	✓	Yes, very few do
Israel	✓	✓	x
Netherlands	✓	✓	Yes, substantial (equal to 50% of mandatory health insurance revenue; government provides premium subsidies to over half of all enrollees)
Switzerland	✓	x	Not relevant
Slovakia	✓	✓	x

Source: Authors and Bryndová et al (2009); Kutzin et al (2010); Rosen and Merkur (2009); Cohn (2011); Szalay et al (2011); Thomson et al (2013); Busse and Blümel 2014

Table 5 Financial risk and risk adjustment among competing purchasers in the WHO European Region, 2012

Country	Share of revenue subject to risk adjustment	Year risk adjustment introduced	Risk adjustment includes health risk (year included)	Ex-post compensation
Belgium	30%	1995	✓ (2006)	✓
Czech Republic	100%	1995	x	✓
Germany	100%	1994	✓ (2009)	x
Israel	95%	1995	x	✓
Netherlands	100%	1993	✓ (2002, 2004)	x
Russian Federation	100%	Varies	x	x
Switzerland	100%	1993	Some (2012)	✓
Slovakia	95%	1995	x	x

Source: Bryndová et al (2009); Kutzin et al (2010); Popovich et al (2011); Rosen and Merkur (2009); Szalay et al (2011); Thomson et al (2013)

The generally slow pace at which countries have strengthened risk adjustment formulas already in place is due to lack of data in some instances (Germany, the Netherlands), but in many it also reflects regulatory capture – government failure to act as a result of resistance and lobbying by purchasers (Chile, the Czech Republic, Switzerland) (Ettelt and Roman 2015 in press, Kutzin et al 2010, Thomson et al 2013).

Contestable markets and effective regulation of competition are found to be absent or lacking in Belgium, Germany, Israel and Switzerland (van de Ven et al 2013).

Availability of purchasing instruments

Purchasers in most countries have the freedom to selectively contract providers; the exception is Belgium and in Germany and Switzerland selective contracting is limited to non-hospital care with other restrictions (van de Ven et al 2013). Dutch purchasers have only recently started to exercise their right to contract selectively, partly due to the lack of good comparative information about provider quality and partly due to fears that people would not like having their choice of provider restricted (Thewissen et al 2015).

Tables 6 gives further details of key institutional features in WHO European Region health systems with competing purchasers.

The conclusion we draw from international reviews of the extent to which important conditions for effective purchaser competition are in place is that while purchaser competition may be attractive in theory, in practice it is challenging to make it work. Countries struggle to meet many of the necessary preconditions. In the absence of robust risk adjustment, incentives to enhance efficiency and quality are limited.

Health systems with a single purchaser can also fail to put in place the right incentives to improve efficiency and quality, leading to poor performance. Internationally, neither approach has been shown systematically to out-perform the other in delivering cost-effective health services. The implication for policy is not, therefore, that one approach is necessarily better or worse than the other. Rather, it is that the introduction of purchaser competition (or a purchaser-provider split) does not *guarantee* active purchasing and stronger performance.

Substantial capacity and resources are required to meet preconditions that countries continue to struggle to meet, even after many years of experience. Perhaps as a result of this – and also related to the duplication associated with having more than one purchaser handling claims and reimbursement – countries with multiple purchasers seem to have consistently higher administrative costs than countries with a single purchaser, as shown in Figure 6.

Issues specific to competition between the HIO and private insurers (option 3)

Internationally, it is very difficult to find examples of health systems in which public and private insurers compete with each other to offer mandatory health benefits for the whole population under identical or very similar conditions. The few examples we have found illustrate serious problems. EU single market and competition rules also make public-private competition more challenging (Mossialos et al 2010).

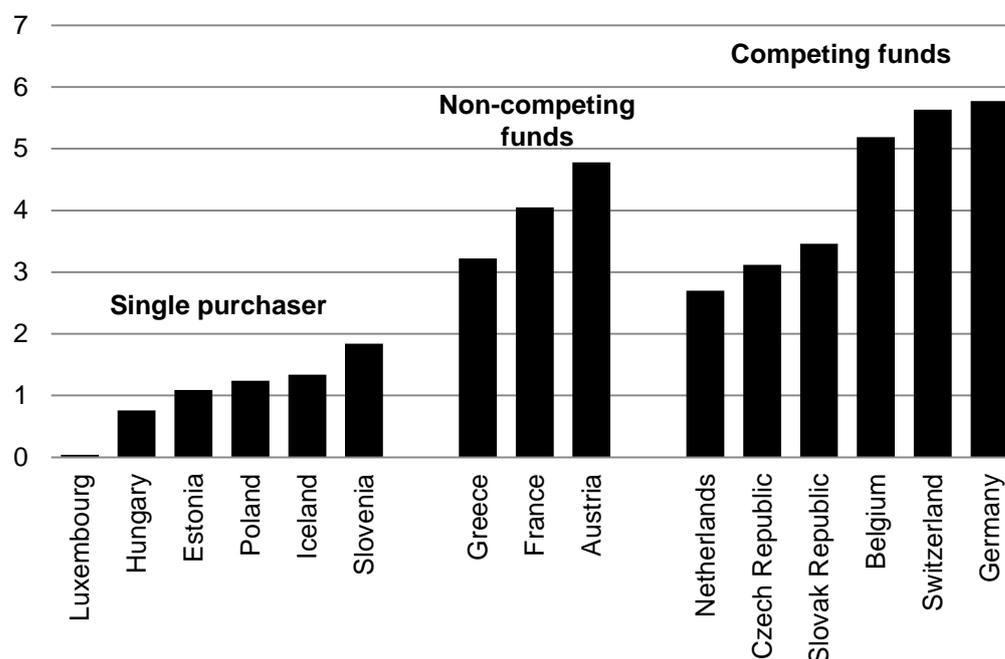
Table 6 Legal status, numbers of purchasers and population size in health systems with competing purchasers in the WHO European Region, 2015 or latest available year

Country	Type of purchaser (profit status)	Governance	Number of purchasers, 2014	National population (millions), 2013	Average pool size (millions)
Belgium	Non-government (non-profit)	Public	6	11.2	1.8
Czech Republic	Non-government (non-profit)	Public	9	10.5	1.2
Germany	Non-government (non-profit)	Public	146	80.6	0.5
Israel	Non-government (non-profit)	Public	4	8.1	2.0
Netherlands	Private (for-profit allowed, mainly non-profit)	Private law	11	16.8	1.5
Switzerland	Private (for-profit not allowed)	Private law	68	8.1	0.1
Slovakia	Private (for-profit)	Private law	3	5.4	1.8

Source: Authors and Bryndová et al (2009); Kutzin et al (2010); Popovich et al (2011); Rosen and Merkur (2009); Szalay et al (2011); Thomson et al (2013); Busse and Blümel 2014

Germany has a long tradition of first, not extending mandatory coverage to white-collar workers and second (and more recently), allowing all higher-earning workers to leave the publicly financed health insurance scheme (GKV) and buy private health insurance (PKV) instead. Opting for PHI exempts people from paying mandatory contributions but they cannot return to the GKV once they reach the age of 55. Private insurers can reject applications and set risk-rated premiums, which rise significantly with age. To ensure those who are locked in to PHI policies can afford to pay premiums as they get older, private insurers are required to offer older enrollees the same benefits as the GKV for a premium equivalent to the average maximum GKV contribution (Busse and Blümel 2014). The regulation preventing older people from returning to the GKV was introduced in 1994 (65 years) and tightened in 2000 (55 years) in response to fiscal pressure caused by people leaving the GKV when they were younger and healthy and returning to it when older or sicker (Thomson and Mossialos 2006).

Figure 6 Administrative costs among social security funds as a share (%) of social security fund spending on health, European OECD countries, 2011



Source: OECD (2015)

Note: The figure includes all European OECD countries reporting health spending by 'social security funds' in which social security funds (private entities in the case of the Netherlands, the Slovak Republic and Switzerland) are responsible for the vast majority of public spending on health. Spending refers to current expenditure. Data are not available for Chile and Israel.

Free choice of public (FONASA) or private insurer (ISAPRE) was established in **Chile** in 1980 under the military Junta. The whole population (except miners, who have their own private scheme) can choose to direct their wage-related contributions to one or the other. By 1988 ISAPRES covered around 11% of the population but received over half of all mandatory contributions and accounted for 38% of total spending on health (Ettelt and Roman 2015 in press). Private insurers can reject applications and set risk-rated premiums. Reforms introduced in 2003 and 2005 aimed to require private insurers to offer community-rated premiums for a minimum benefits package, combined with risk adjustment among ISAPRES. However, the reforms were not fully implemented and in 2010 some of the risk factors to be included in the risk adjustment formula (age and sex) were found to breach Chile's constitution.

In the **Czech Republic**, the General Health Insurance Company (VZP) was set up in 1992 as a quasi-public self-governing purchaser and a year later new purchasers were established, mainly organised around large employers and industry sectors (and therefore called 'branch' or 'employer' purchasers). The same rules apply to all purchasers. The VZP takes on the enrollees of purchasers that go out of business with the support of a fund financed by surcharges levied on branch purchasers (VZP 2015). It covers around 60% of the population (VZP 2015).

There are major differences in the history and design of competition between public and private purchasers in these three countries. Nevertheless, they share three common outcomes (Thomson et al 2006, Kutzin et al 2010, Ettelt and Roman 2015 in press):

- significant risk segmentation, in which the public purchaser covers a disproportionate share of older, sicker and poorer people
- substantial fiscal pressure for the public purchaser as a direct result of risk segmentation and due to the absence of any redistributive mechanisms in Germany and Chile and limited mechanism in the Czech Republic
- inequalities in financial protection and access to health care by coverage status (public or private)

In Germany and Chile, risk segmentation is largely by design – public and private insurers are subject to different rules, giving private insurers strong incentives to select risks, especially to draw low-risk people away from public coverage, and allowing them to favour richer people. For example, in 2010 the cheapest basic private premium for a family of four in Chile was €105 per month, which exceeded 7% of wages (the mandatory contribution rate) for most people (Ettelt and Roman 2015 in press).

In the Czech Republic, risk segmentation is partly the result of weak implementation of the risk adjustment scheme. Initially, risk adjustment only applied to 60% of mandatory health insurance contributions paid by employees and to revenue from the government on behalf of non-active people such as children, pensioners and students (known as state-insured people). The risk adjustment formula was also very weak, based only on the number of state-insured people and two age groups (state-insured below and above the age of 60). As a result, VZP covered a much lower share of people aged under 60 than the other purchasers, and a much higher share of people aged over 60 (Kutzin et al 2010). After much resistance on the part of the other purchasers, leading to several failed attempts to improve the risk adjustment formula over a ten-year period, the formula was moderately strengthened by extending it to all mandatory health insurance revenue, creating additional age groups and adjusting for sex. The government also tried to lower incentives for risk selection by providing ex-post compensation for high-cost patients (Bryndová et al 2009: 44).

Two design factors also played a role in the Czech case. The VZP started by covering the whole population and it was only a year later that the market was opened to other purchasers. Research shows that older and sicker people are systematically less likely to switch insurer than other groups of people (Buchmueller and Feldstein 1997). Due to this status quo bias, it was probable that the VZP would end up with a higher share of older people. The other factor was that the new purchasers were established around groups of workers and therefore automatically covered younger people than the VZP.

Without additional public funding to compensate for having to cover a disproportionate share of higher-risk people, the public purchaser in Chile and the VZP in the Czech Republic have struggled to provide the same level of access to care as their competitors (Kutzin et al 2010, Ettelt and Roman 2015 in press).

The experience of these countries suggests some clear lessons for Cyprus with regard to option 3 if the government hopes to avoid the fiscal pressure and potential for two-tier access to health care associated with risk segmentation. First, it would be advisable not to start the NHS with the HIO and then, at a later date, open up the market to private insurers without ensuring there is a sophisticated risk adjustment mechanism already in place. The status quo bias of older and sicker people, combined with weak risk adjustment, would almost certainly mean the HIO would not have adequate resources, in comparison to its competitors, to the disadvantage of its beneficiaries. Second, it is important to develop a sophisticated risk adjustment formula before introducing competition because lobbying by purchasers makes it difficult for countries to strengthen a weak formula. This lesson applies to option 2 also. Third, it is not advisable to allow private purchasers to develop around employment or to offer group policies (which would have the effect of linking coverage to employment), as this would also systematically disadvantage the HIO.

Summary

Countries in Europe vary widely in how they approach and encourage better purchasing of publicly financed health benefits, including through changes in the market structure of purchasing. While most health systems now have a purchaser-provider split, only a handful have introduced competition between purchasers.

No one approach systematically out-performs another in delivering cost-effective health services. In *any* health system, what matters is that the government ensures purchasing agencies have the authority, incentives, information and instruments needed for active purchasing and is able to create a transparent, consistent and stable environment within which active purchasing can flourish.

The international experience suggests that a system involving competition among purchasers is technically much more complex than a system with a single purchaser and involves higher transaction and administrative costs. These disadvantages need to be weighed against the advantages of giving purchasers strong incentives to be responsive to beneficiaries.

4 Effective purchaser competition requires sophisticated risk adjustment

This section explains why sophisticated risk adjustment is important for effective purchaser competition and considers the potential for developing a strong risk adjustment mechanism in Cyprus.

Why does purchaser competition need sophisticated risk adjustment?

If purchasers receive the same amount of money per enrollee, regardless of the risk profile of their enrollees, they will have a strong incentive to engage in risk selection – that is, to encourage low risks to enrol and deter high risks from enrolling. The more successful they are at selecting risks, the higher the surplus they will be able to generate.

Risk selection is undesirable for several reasons (van de Ven and Ellis 1999, van de Ven 2011):

- it weakens incentives for purchasers to be responsive to the needs and expectations of *all* enrollees; rather, they will focus their attention on meeting the needs of those who are most likely to switch – younger and healthier people – and will not pay enough attention to the needs of older people or people with chronic conditions
- it weakens incentives for purchasers to operate efficiently or to enhance efficiency and quality in health care delivery
- it is not an activity that leads to any societal or economic benefit

If purchasers can generate and maintain profits through risk selection, then they will have little reason to operate efficiently or to engage in strategic purchasing. This undermines the main premise of purchaser competition.

Incentives to select risks are influenced by two additional factors. First, the degree of financial risk purchasers bear; the greater the financial risk, the stronger the incentive to select risk. Second, the degree to which purchasers have access to tools that facilitate risk selection, such as the ability to ‘link’ the sale of mandatory and voluntary health insurance (Paolucci et al 2007).

The primary mechanism for reducing incentives to select risks is risk adjustment. By minimising incentives for risk selection, sophisticated risk adjustment:

- enables purchasers to bear a much higher degree of financial risk
- promotes consumer mobility, fair competition based on cost and quality and equitable access to health care of good quality

- creates incentives for purchasers to operate efficiently and enables them to focus on strategic purchasing to enhance efficiency and quality in health care delivery

In this way, sophisticated risk adjustment is central to the effective functioning of purchaser competition. The smaller the size of risk pools, the greater the need for sophisticated risk adjustment.

Risk adjustment does not need to be perfect, but it needs to be sophisticated enough to make risk selection a costly exercise for purchasers.

What does it take to develop strong risk adjustment?

A sophisticated risk adjustment mechanism aims to reflect, as accurately as possible, variation in health care costs across enrollees. It therefore requires *all* of the following:

- individual-level data about enrollees' health status
- individual-level data about prior health service utilisation across different sectors of the health system
- individual-level data about enrollees' age and sex
- individual-level data about enrollees' socio-economic characteristics
- the ability to link these four sets of data at the level of the individual
- regular updating of the formula to reflect changes in health care costs

Data on age and sex alone are not enough because they are unable to predict more than a small share of the variation in health care costs across individuals (van de Ven and Ellis 1999), while data on health status alone will not reflect differences in patterns of health service utilisation across the population.

The four types of data required need to be linked at the level of the individual. This requires an agency to create a unified database and it makes sense for one agency to manage the database and pool and allocate public funds.

Data on health service utilisation should be updated on a regular basis to reflect changes in health care costs that arise due to the development of new interventions or new technologies. Regular updates are also needed to reflect health care cost changes linked to changes in provider payment methods, changes in prices or changes in provider responses to existing payment methods.

Designing an effective risk adjustment formula is not difficult 'on paper'. Cyprus can adapt the formulas used in other countries. The Dutch and German formulas are at present the most advanced. Table 7 sets out the formula used in the Netherlands,

which is able to account for over 90% of the variation in health care costs across enrolees (not including mental health care and nursing care costs).

The international experience suggests that the main obstacles to developing a sophisticated risk adjustment mechanism are: a) a lack of information systems; b) concerns about the governance of data; and c) regulatory capture. The following paragraphs discuss each of these in turn.

Lack of information systems

Cyprus is working towards setting up stronger information systems, but – as Table 7 shows – it is not yet in a position to operate the sophisticated formula needed for competition to be effective. Many of the data required and the ability to link them are currently not available in Cyprus. Collecting the missing data and developing the ability to link them are challenging tasks involving substantial transaction costs.

Demographic and socio-economic data are currently available but need to be able to be linked to data on health status and health service utilisation at the level of the individual. Individual-level linked data on health service utilisation are currently only partly available through the claims of the private health insurers. Another problem is the fact that the actual costs of the utilisation are not available for the public hospitals.

Using PHI claims data for risk adjustment may be problematic for two reasons. PHI claims data are not sufficiently reliable for a national risk adjustment mechanism due to differences in patterns of utilisation among those currently covered by public funds and those currently covered by PHI; and differences in the cost profiles of public and private providers – for example, reflecting differences in hospital occupancy rates and staff remuneration. Most international studies indicate that private clinics offer higher levels of remuneration to doctors, have higher capital costs and offer lower salaries to nurses and support staff than public counterparts (Jeurissen 2010). In Cyprus, the prices of private hospitals appear to be high by international standards⁶ and private hospitals have lower ratios of nurses to beds (0.63 compared to 1.02 in public hospitals) (MOH 2011).⁷

⁶ For example, equal to four times Swiss rates for seven high-volume procedures (HIO presentation, April 2012).

⁷ Some of this difference may reflect differences in case mix.

Table 7 Types of information used in the risk adjustment formula in the Netherlands and availability of information in Cyprus

Criteria	Risk groups (€ value)	Type of data used in the Netherlands (source)	Availability in Cyprus
1 Age and gender (40 groups)	<ul style="list-style-type: none"> ▪ 18 age groups (1,268-4,119) ▪ infants in their first year of life (5,240 or 4,553) ▪ above ninety (4,348 or 3,949) ▪ male, female 	Administrative (individual insurers)	Yes, but not linkable
2 Pharmaceutical consumption (25 groups)	<ul style="list-style-type: none"> ▪ 24 groups based on specific prescriptions distributed by pharmacists (-1,168-14,895) ▪ 1 group that does not fit into any of the above 	Electronic prescriptions	Not yet
3 Diagnostic cost groups (16 groups)	<ul style="list-style-type: none"> ▪ 15 groups of specific inpatient treatments (270-69,421) ▪ 1 group that does not fit into any of the above (-221) 	DRGs	Not yet
4 Use of expensive aids (5 groups)	<ul style="list-style-type: none"> ▪ insulin pumps (461) ▪ catheters (1,379) ▪ stoma (1,887) ▪ trachea stoma (5,184) ▪ none of the above (-14) 	DRGs	Not yet
5 Source of income (18 groups)	<ul style="list-style-type: none"> ▪ 6 age groups and income source (working disability, welfare, self-employed, other) (-228-789) 	Statistics Netherlands	Yes, but not linkable
6 Region (10 groups)	<ul style="list-style-type: none"> ▪ 10 groups based on postcode (-76-101) 	Administrative (individual insurers)	Yes, but not linkable
7 Socio-economic status (10 groups)	<ul style="list-style-type: none"> ▪ 3 age groups and household income (low, medium, high) (-97-131) ▪ households > 15 people (23-228) 	Statistics Netherlands	Yes, but not linkable
8 Multi-year high-cost patients (7 groups)	<ul style="list-style-type: none"> ▪ top 15%, 10%, 7%, 4% or 1.5% cost patients in year t-3, t-2, and t-1 (2,239-26,992) ▪ top 10% patients in year t-2 and t-1 (2,563) ▪ none of the above (-270) 	Claims	Partly (PHI claims data), but not linkable and may not be usable (see note)
9 General somatic morbidity (4 groups)	<ul style="list-style-type: none"> ▪ healthy people < 65 (-81) ▪ unhealthy people < 65 (416) ▪ healthy people > 65 (-316) ▪ unhealthy people < 65 (198) (some score on criteria 2, 3, 4, and 8) 	Risk adjustment mechanism	No

Source: Authors

Note: Whether or not the government can use historical PHI claims data will depend on data protection rules.

The availability of reliable outpatient data is even more limited in Cyprus, due to the high level of out-of-pocket payments for primary care and ambulatory specialist care (Mercer 2013). Again, this will be addressed under the NHS, but it will take time to develop a unified information system across public and private providers of ambulatory care.

Pharmaceutical data also presents significant challenges. At present there is no system of electronic prescribing, the bulk of pharmaceutical spending is private (57% in 2012) (MOH 2014) and there is highly likely to be a substantial difference in prescribing costs across public and private providers. This is because generic prescribing is a requirement among public providers only and is likely to be the exception among private providers.

Concerns about the governance of data

The need for a unified database linking the four types of data gives rise to important concerns about data protection and privacy. The government will need to reassure people that this highly sensitive information is held securely and will not be used for any purpose other than risk adjustment in mandatory health insurance.

Where private insurance entities responsible for purchasing under mandatory health insurance, the government will need to take steps to ensure that health and other data cannot be shared with other lines of insurance business and used to select risks in other areas of insurance.

If the government plans to use existing claims data held by private insurers to develop a risk adjustment mechanism, it will need to ensure it has the right to make use of this data for purposes other than originally intended. This may require regulatory changes.

Regulatory capture

There is strong justification for risk adjustment where purchasers compete and contributions are not linked to risk of ill health. Nevertheless, internationally, private insurers have tended to resist efforts to subject them to risk adjustment and efforts to refine an existing risk adjustment mechanism, occasionally resulting in legal challenges to government policy (see section 3 for more detail).

The international experience suggests that, due to the possibility of regulatory capture, sophisticated risk adjustment is ‘easier’ to implement – and takes less time to implement – if it is developed *before* the introduction of purchaser competition than if it is developed once competition is already in place.

What are the risks of *not* having sophisticated risk adjustment?

The absence of sophisticated risk adjustment is likely to lower health system performance in three ways. First, and most obviously, purchasing agencies will have strong incentives to select risks and weak incentives to enhance efficiency.

Second, a less than sophisticated mechanism will result in a mismatch between health need and financial resources at the level of individual purchasing agencies. Some purchasing agencies will have more revenue than necessary, others will not have enough. This is inefficient, in terms of risk pooling. It also has equity implications, because some people will have better access to publicly financed health care (or access to a better quality of health care) than others. The weaker the risk adjustment mechanism, the stronger the incentives for risk selection and the higher the potential for these negative effects.

Third, if the risk adjustment formula is not sophisticated, the government may try to lower incentives for risk selection, either by allowing some experience-based rate setting within a limited range or, more commonly, by providing ex-post compensation of a share of purchasers' health care spending (sometimes referred to as risk sharing or risk corridors).

A significant disadvantage of both experience rating and ex-post compensation is that they lessen the degree of financial risk purchasing agencies bear and therefore dampen incentives to enhance efficiency (van de Ven 2011). Due to their limitations, these mechanisms can be used as transitional, corrective measures where a relatively robust risk adjustment formula has been developed but the formula is not yet quite as good as it should be. However, they should be seen as a time-limited correction only and not as part of the permanent design of a competitive system (Cunningham 2012). In the Netherlands, for example, ex-post compensation is now only used for expensive cancer medicines and for some mental health and outpatient nursing services.

Summary

Without sophisticated risk adjustment, purchaser competition is unlikely to be effective in facilitating stronger purchasing, enhancing efficiency and quality or encouraging responsiveness to the beneficiaries that matter. Cyprus does not yet have the information systems and payment mechanisms (DRGs) required for sophisticated risk adjustment. These are being developed but will take time to establish. The international experience suggests that, due to the possibility of regulatory capture, sophisticated risk adjustment is 'easier' – and quicker – to implement if it is developed before the introduction of purchaser competition than if it is developed once competition is already in place.

5 The market for voluntary health insurance in Cyprus

Market role

Voluntary health insurance (VHI) in Cyprus plays a substitutive role for non-permanent residents from countries outside the European Union, who are not entitled to any publicly financed health services (see Table 8 for a classification of VHI market roles). Around 17% of permanent residents are not entitled to publicly financed primary care or ambulatory specialist care; they are entitled to publicly financed inpatient care in public hospitals, but must pay substantial user charges to access this care (Theodorou et al 2012). For this group of people, VHI plays a mixed substitutive and supplementary role, providing access to privately provided primary care, ambulatory specialist care and inpatient care. VHI also plays a supplementary role for the 83% of the population who are fully entitled to publicly financed health services, offering them access to private providers.

Table 8 Functional classification of markets for voluntary health insurance

Market role	Driver of market development	Nature of cover	EU examples
Supplementary	Consumer satisfaction: perceptions about the quality of publicly financed care	Offers faster access and enhanced choice of provider	Ireland, Sweden, UK
Complementary (services)	The range of publicly financed benefits covered	Covers services excluded from or only partially covered by the statutory benefits package	Denmark, Netherlands
Complementary (user charges)	The share of the benefit cost covered	Covers statutory user charges	France, Slovenia
Substitutive	The share of the population eligible for publicly financed coverage	Covers people excluded from or allowed to opt out of the statutory system	Germany

Source: Adapted from Foubister et al (2006)

Note: In some countries VHI plays a mixed role (that is, VHI products combine one or more roles).

Market size

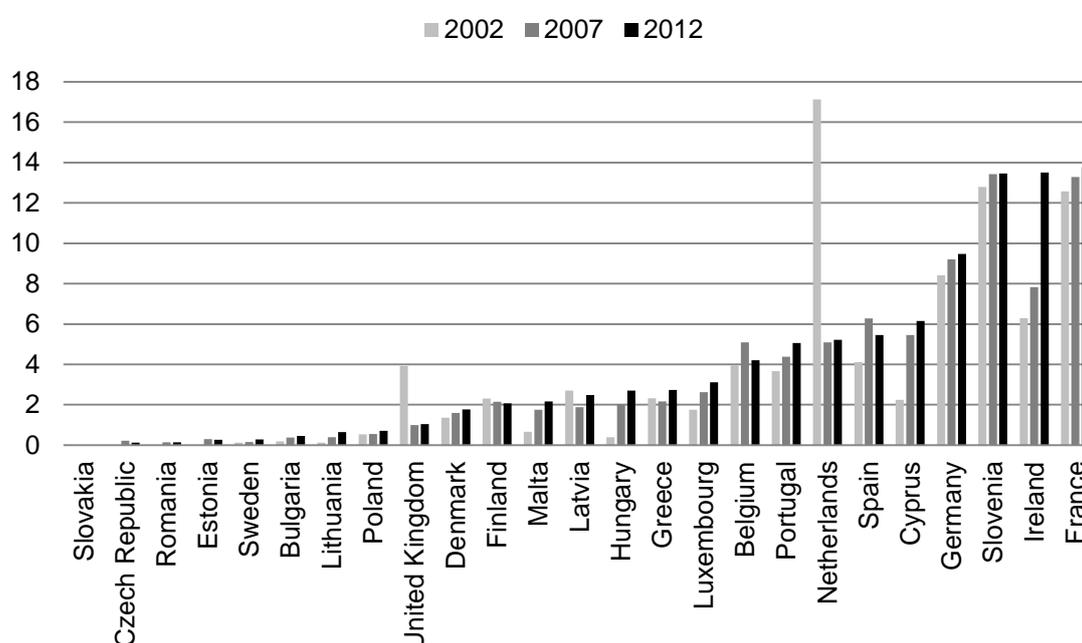
The size of a VHI market can be measured in three ways: the extent of premium income, its contribution to spending on health and its coverage of the population. We discuss each in turn.

Premium income: In 2013 VHI (strictly speaking, accident and health insurance) amounted to around €98 million (gross written premiums) (IAC 2015), with a further €7 million coming from non-EU insurance companies (ICCS 2014: 10). VHI has grown as a share of the overall insurance market (life and non-life insurance),

rising from 9.2% in 2006 to 13.6% in 2013 (ICCS 2014). So far, the financial crisis has had little impact on the growth of health insurance. This contrasts with other parts of the insurance sector in which total written premiums declined by 11.1% in 2013 and by 6.4% in 2012 (ICCS 2013: 4).

Contribution to spending on health: Measured in terms of VHI spending as a share of *total* spending on health, Cyprus has the fifth largest VHI market in the European Union (see Figure 7). In 2012, VHI spending accounted for 6.2% of total spending on health. This share has grown rapidly in the last decade, rising from just over 2% in 2002 to just over 5% in 2007.

Figure 7 VHI as a share (%) of total spending on health, Cyprus and EFTA countries, 2002, 2007 and 2012

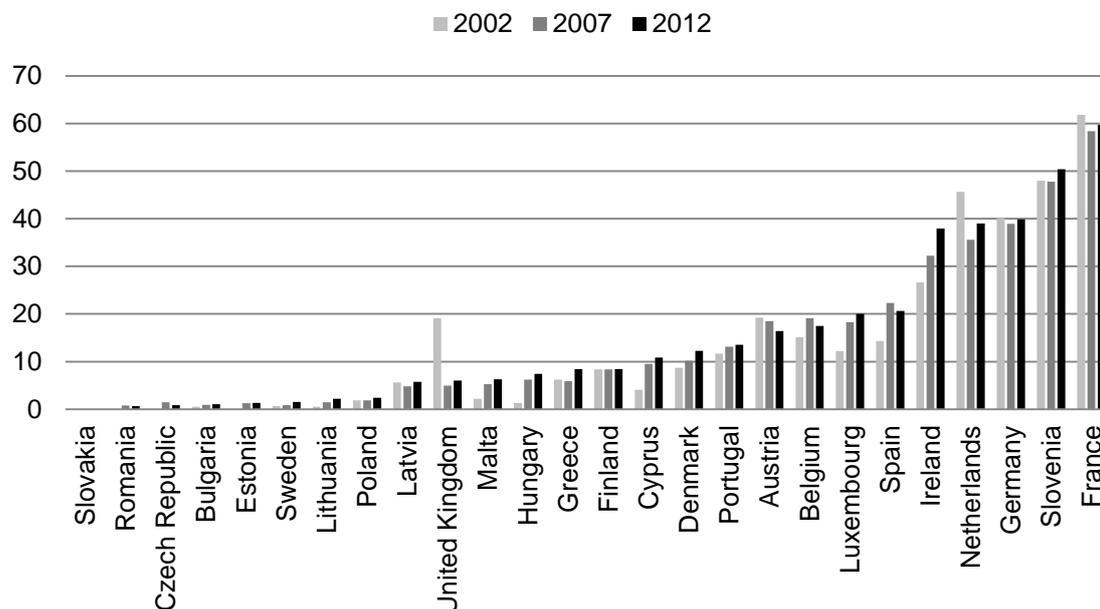


Source: WHO (2015)

Measured in terms of VHI spending as a share of *private* spending on health, the VHI market in Cyprus is less significant. In 2012, VHI accounted for just under 11% of private spending on health. This suggests VHI does not do so well in addressing gaps in coverage - that is, it only covers a small proportion of OOPs – in contrast to some EU countries (see Figure 8).

Population coverage: According to the Insurance Association of Cyprus (2014), VHI covered 196,061 people in 2012, equivalent to around 23% of the population.

Figure 8 VHI as a share (%) of private spending on health, Cyprus and EFTA countries, 2002, 2007 and 2012



Source: WHO (2015)

Market structure

Sellers: In 2013 VHI was sold by 22 insurance companies and 3 composite insurance undertakings, all of which are commercial. Many of the insurers are non-life companies, but life insurers have the bulk of premiums. In 2013, the four largest companies accounted for 68% of premiums and the largest company (Universal Life) accounted for 31% of premiums (IAC 2015). Currently, the scale of most of these companies is too small to allow them to operate efficiently under a system of competition for mandatory health benefits.

Buyers: Around 40% of those with VHI were covered through group contracts in 2012 (IAC 2014).

Market conduct⁸

VHI premiums are linked to an assessment of the health risk of the individual subscriber (often on the basis of age and medical history). Premiums can increase with age, sometimes by up to 400% over a lifetime. There is no open enrolment requirement, meaning insurers can reject applications and do not usually cover pre-existing conditions. Most policies offer defined benefits and are restricted to covering acute conditions up to an annual maximum amount. Insurers often carry out utilisation reviews for inpatient stays and expensive (diagnostic) procedures and

⁸ The information in this sub-section draws on information provided by Universal Life.

some require subscribers to pay out-of-pocket if they choose to visit physicians and hospitals that are not in the insurers' list of preferred providers.

VHI is mainly used to pay for services provided by private hospitals and private physicians (around 60% of VHI spending on health care). Prescription drugs, outpatient (diagnostic) procedures and childbirth account for a further third of VHI spending. In a given year around half of all subscribers will not make use of their VHI policy. Around 1% of subscribers account for 20-25% of VHI spending and 10% account for 60-65% of all claims. Data provided by the IAC suggest that the concentration of claims has risen slightly over the last ten years.

Claims and administrative costs

Insurance companies offering VHI policies in Cyprus spend a relatively low share of their income on health care (claims). In 2013, VHI claims amounted to 63.6% of premium income (IAC 2015), meaning that VHI administrative costs and profits amounted to 36.4% of premium income. This level of non-health spending is very high by international standards (Thomson and Mossialos 2009).

The fact that VHI covers 20% of the population for around 7% of total spending on health suggests that the risk profile of VHI subscribers is very different from the risk profile of those covered by public funds. It also reflects the fact that VHI does not cover the whole spectrum of health services but focuses on financing acute care. In addition, VHI subscribers benefit from access to some publicly financed services, including cancer treatment for people with annual incomes below €100,000.

Solvency

Regulators set a solvency requirement for insurance companies and the solvency ratio measures the extent to which this requirement is met. In Cyprus the average solvency ratio for all insurance (life and non-life policies) was 2.86 times the minimum requirement in 2013 (an increase from 2.5 in 2012 and 2.1 in 2011) (ICCS 2013).

Summary

The VHI market in Cyprus is financially healthy, profitable and has very high administrative costs: less than two-thirds of VHI premium income are spent on health services. VHI covers a disproportionately low-risk group of people who – on average – are likely to be younger and richer than those entitled to fully publicly financed coverage. Private insurers are not required to provide full coverage and therefore exclude or charge higher premiums for cover of pre-existing conditions and do not usually cover care for chronic conditions. Spending through VHI only accounts for around 10% of private spending on health, which suggests VHI has limited ability to address Cyprus' high out-of-pocket payments. Currently, the scale

of most private insurers is too small to allow them to operate efficiently under a system of competition for mandatory health benefits.

6 Option 1: HIO as the single purchasing agency

Rationale

Option 1 envisages the HIO as an independent risk-bearing single purchaser with substantial leverage over providers, the ability to benefit from economies of scale and low administrative costs. It aims to be accountable to government, to those who fund it and to its beneficiaries through tripartite supervision and transparent and participatory oversight, including public reporting.

Policy design

Important information about how the HIO will function and be governed are set out in the draft NHS law and in other policy documents.

Requirements

To be effective, the HIO needs to bear financial risk and will require careful governance arrangements, including transparent oversight, public scrutiny and the ability to operate without undue political interference.

Financial risk: The draft NHS law⁹ requires the HIO to operate according to an annual budget approved by its management board and, ultimately, by the Council of Ministers and the parliament, and to balance its budget on an annual basis. In exceptional circumstances (for example, in case of pandemic, natural disaster or war), the government will bear additional costs. The HIO's operating expenses are included in its budget, but capped at 5% of revenue. This is relatively high in comparison to other systems with a single purchasing agency, but in line with most systems with competing purchasers (see Figure 6).

Governance arrangements: Two factors are likely to be important in the case of a single purchaser (Savodoff and Gottret 2008). First, oversight requires political or economic counterweight to the HIO. Second, there should be clear definition of the respective competencies of the MOH and the HIO, so that the HIO can operate without undue political interference. The first requirement may be satisfied by a range of mechanisms envisaged in the draft NHS law, including tripartite supervision of the HIO (the management board comprises government, employers and employees) and an advisory committee chaired by the MOH with representatives from employers, employees, self-employed people and patients. Another option is to allocate some of the HIO's tasks to one or more new agencies, which would help to spread the governance functions of the health system across more than just two entities.

⁹ The information in this paragraph comes from Article 48.

Advantages

Option 1 offers the significant advantage of a unified risk pool. This and other advantages are discussed in the following paragraphs.

A unified risk pool for equity, efficiency and lower transaction costs: Pooling refers to the accumulation of revenue from pre-payment financing mechanisms on behalf of all of the population (McIntyre and Kutzin 2014). The HIO will pool all public funds for the NHS. Having a single, national pool offers four main benefits.

First, it is a straightforward means of achieving a unified risk pool without the need for risk adjustment. A unified risk pool maximises the redistributive capacity of public funding for the health system, allowing full cross-subsidisation from those who are healthy to those who are ill and from richer to poorer people. The larger the pool, the greater the potential for these cross-subsidies. Pre-payment and risk pooling constitute the ‘insurance function’ in any health system. Together, they result in substantial efficiency gains for individuals, for the health system, for society and for the economy (Barr 2004).

Second, national pooling lowers transaction costs in the health system and enhances the health system’s administrative efficiency. Allocating resources to regions is much less technically demanding than allocation to competing purchasers. With a single purchasing agency, there is no duplication of purchasing tasks.

Third, while the HIO may have concerns about the overall size of the budget for the NHS – a concern that would be present for purchasers under all three options – it will not have to worry about whether it is getting a fair *share* of this budget, since it is getting *all* of it. As a result, it can focus its attention on purchasing.

Fourth, there is no need for a minimum level of solvency other than working capital.

Stronger leverage over providers: As a result of its monopsony power, the HIO will have substantial leverage over providers. In theory, this gives it a greater opportunity to influence health care quality and costs and to hold providers to account.

More scope for policy action by government: In a system governed by public law, the government generally has significant scope to exert control over other actors and control over health system costs. Some of the requirements of a competitive system operated by private health insurers (such as the need for an explicitly defined benefits package), combined with a more contractual basis for entitlement to health benefits, may limit the government’s ability to control the level of public spending on health.

Relative simplicity: Health systems are inherently complex institutions involving multiple actors and interests. Introducing competition among purchasers – especially private purchasers – adds to this complexity. Complexity increases transaction costs

and lowers transparency. A single purchaser offers the comparative advantage of being relatively simple.

Risks

Option 1 involves a number of risks. It requires carefully designed governance arrangements to ensure effectiveness and accountability.

HIO is not responsive due to lack of ‘exit’ option for beneficiaries: Since there is no ‘exit’ option for beneficiaries, the HIO may not be so responsive to its beneficiaries. This will need to be addressed through the introduction of other mechanisms, such as ensuring beneficiaries are adequately represented in the governance of the HIO; developing an NHS ‘constitution’ that clearly sets out what patients, the public and health workers can expect from the NHS and the HIO and what the NHS expects from them in return; and requiring the HIO to carry out and publish the results of regular surveys of beneficiaries.

Conflict between the MOH and the HIO draws the focus away from purchasing: A further risk associated with this option is that governance arrangements may not be effective in minimising the potential for conflict between the health system’s two major actors, the MOH and the HIO. The MOH may not feel it has sufficient leverage over the HIO, while the HIO may feel it does not have sufficient discretion and authority to fulfil its responsibilities. Conflict is problematic if it draws the attention and focus of the MOH and the HIO away from purchasing. This is mainly a risk under option 1, but it may also be a risk under option 3.

Public administration inertia and implementation challenges: The culture of the public administration in Cyprus may not encourage strong performance on the part of the MOH or the HIO. As a result of accounting procedures, in public bureaucracies budgets are often spent because they are available rather than because they are needed (Wildavsky 1986). Other implementation challenges include purchasing from private providers, who operate according to a very different business model from public providers, and the establishment of a national IT system.

Implications for government

Option 1 presents four main challenges for the government. First, it will be necessary to articulate a clear distinction between the competencies of the MOH and those of the HIO. Second, there is a need to define governance arrangements that strike a balance between the ministry’s overall responsibility for health system performance and the HIO’s ability to do its job without undue political interference; where there is only one purchasing agency, there may be greater potential for tension and conflict between the MOH and the purchasing agency. Third, the government will need to find ways to ensure the HIO is responsive to the needs of its beneficiaries. Fourth, the government needs to ensure that a national IT system is

in place to handle claims and provider payment and generate information for active purchasing.

Implications for private insurers

The VHI market in Cyprus is currently financially healthy and profitable. It also has very high administrative costs by international standards: less than two-thirds of the revenue from VHI premiums are spent on health services. How much private insurers will be affected by the NHS depends on whether people view VHI as offering good value for money once they are required to contribute to the NHS and are entitled to NHS benefits. This will in turn be influenced by the ability of private insurers to develop cheaper products and new products that respond to gaps in NHS coverage or weaknesses in NHS performance. The VHI market's high administrative costs, combined with the overall insurance industry's high levels of solvency (see section 5), suggest private insurers have some leeway to offer more attractive products.

Under the NHS, the market for VHI is likely to experience an initial decline in the number of subscribers. At the same time, it is likely that a core group of people will continue to purchase VHI to benefit from services not covered by the NHS, obtain treatment abroad or maintain access to private providers outside the NHS. Private insurance will continue to be a requirement for non-permanent residents from countries outside the European Union. At present, the coverage employers are required by law to buy on their behalf is limited. Increasing this requirement would boost demand for private insurance and improve financial protection for this group of people. Overall, while the number of people covered by VHI is likely to fall following the introduction of the NHS, there is uncertainty about the degree to which this will threaten the viability of the VHI market and the wider private insurance industry.

Implications for health care providers

Under all three options, the NHS will require adjustment for *private* providers, who are likely to have to accept lower prices in return for higher volume. They will also be operating under a greater degree of oversight and scrutiny, potentially involving monitoring of and public reporting on their performance. *Public* providers will benefit from greater autonomy and will also be subject to greater oversight and scrutiny, including performance monitoring and public reporting. *All* types of providers are likely to be subject to new forms of provider payment that require them to accept a degree of financial risk. This is to be expected in health systems that aim to enhance efficiency and quality through stronger purchasing.

7 Option 2: Competition among private purchasing agencies

Rationale

Option 2 envisages independent, private purchasers (private insurers) with information, instruments and incentives for strategic purchasing offering NHS beneficiaries choice of purchasing agency. Incentives to be responsive to public expectations and to engage in strategic purchasing come from bearing financial risk and from the threat of losing enrollees.

Policy design

Design details are not specified in policy documents but are critically important. The assumptions we have made about key design features are set out in section 2 and can be summarised as follows:

- mandatory coverage of all permanent residents with a comprehensive and uniform benefits package financed through income-related pre-payment
- central collection and central pooling of public funds for the health system
- open enrolment providing lifetime cover (guaranteed renewal), cover of pre-existing conditions and portability of benefits for the uniform benefits package
- centrally determined policy on a uniform benefits package, user charges, provider payment, prices and priority setting
- patient choice of contracted public or private provider
- a continuing role for voluntary health insurance (VHI) offered by private insurers

Requirements

For this option to be effective, purchasers will need to bear financial risk. Effective competition also requires:

- consumer mobility: people should have equal opportunity to switch from one purchaser to another with ease and without incurring significant transaction costs
- fair competition: competition should be based on cost and quality, not on risk selection; this requires a sophisticated risk adjustment mechanism

The government will need to invest in carefully defining entitlements and establish many new rules to regulate competition, protect consumers, ensure consumer mobility and minimise risk selection, including sophisticated risk adjustment and a separation of mandatory and voluntary health insurance business. The following paragraphs describe these requirements in more detail

Solvency for consumer protection: The requirement for financial risk must be accompanied by adequate solvency arrangements to protect consumers against

purchaser bankruptcy. However, the level of solvency required will be lower under the NHS than at present (in the VHI market) because private insurers will derive their revenue from risk-adjusted capitation payments from a central fund rather than from premiums based on underwriting. Risk adjustment will be the primary means of protecting purchasers against volatility in claims (spending on health care). Central pooling of funds combined with sophisticated risk adjustment creates a large and unified risk pool and minimises the risk of insolvency from poor pricing. We discuss this in more detail below.

Explicitly defined entitlements for beneficiaries: In a system governed under private law and where there is a contractual basis for entitlement to health benefits, these benefits will need to be explicitly defined by the government. NHS beneficiaries will need a clear idea of the benefits to which they are entitled.

Stringent regulation of private insurers to ensure consumer mobility: If people cannot easily switch from one purchaser to another, competition will not achieve its objectives. This is because purchasers will not feel pressure to improve their performance in order to retain enrollees. Ensuring consumer mobility is particularly important for older people and people with chronic conditions for two reasons. First, these people account for a very large share of health care activity and spending. If insurers do not have incentives to provide them with access to good-quality care, the potential for competition to have a positive impact on health system performance disappears. Second, older and sicker people are generally less likely to switch purchaser than younger and healthier groups of people. Thus, greater effort is needed to ensure they have equal opportunity to switch. Consumer mobility requires open enrolment, cover of pre-existing conditions and a uniform benefits package. It also requires transparent comparative information on purchaser performance.

Sophisticated risk adjustment to minimise incentives for risk selection and ensure fair competition: If purchasers can generate and maintain profits through risk selection, then they will have little reason to operate efficiently or to engage in strategic purchasing. As a result, competition will be based on risk selection rather than on the cost and quality of health care. This undermines the main premise of purchaser competition. Effective purchaser competition requires a sophisticated risk adjustment mechanism, so that the amount of money purchasers receive per enrollee accurately reflects expected spending on health care, especially where risk pools are small. This does not imply a need for perfect risk adjustment. The mechanism used just needs to be good enough to make risk selection a costly exercise for purchasers.

Ex-post compensation of a share of purchasers' health care spending can be used as a temporary corrective measure where a relatively robust risk adjustment formula is not yet quite as good as it should be. However, because ex-post compensation lowers financial risk for purchasing agencies and therefore lowers their incentives to enhance efficiency, it should be seen as a time-limited correction and not as part of the design of a competitive system. See section 4 for more detailed information on risk adjustment.

Separation of mandatory and voluntary health insurance business to minimise incentives for risk selection: If purchasers are allowed to sell both mandatory and voluntary health insurance, they can in theory use the latter to select risks in the former due to their ability to assess a person's risk of ill health when setting VHI premiums. To avoid this, the government will need to introduce and enforce a separation between mandatory and VHI business and monitor purchasers to ensure they are not linking the sale of mandatory and voluntary health insurance (a practice known as 'conditional sale'; see section 3).

Establishing new agencies: The government will have to establish a new agency to pool public funds for the health system, to develop and manage the risk adjustment mechanism and to allocate risk-adjusted funds to purchasers. Purchaser competition also requires a new agency to ensure fair competition. The HIO could take on one of these two roles.

Advantages

Option 2 offers three main advantages.

Giving people choice of purchasing agency is a strong incentive for making purchasers responsive to (easily measurable) public expectations: Free choice of purchasing agency encourages responsiveness to public expectations about factors that are easy to measure and compare, such as differences in premiums for a uniform benefits package, waiting times, the range of contracted providers and some quality indicators (for example, hospital standardised mortality ratios and infections after surgery).

The threat of exit may encourage more active purchasing, but only if requirements are met: To sustain any comparative advantage over competitors, purchasers will need to engage in active purchasing. In theory, this means service delivery innovations may be more quickly adopted, purchasers may be more alert to consumer preferences around quality of customer service, waiting times, satisfaction and amenities and provider networks may help to match preferences to provision. However, these advantages will only be realised if the requirements set out above are met.

Health care as a legally binding contractual entitlement: Where there is a legally binding contractual agreement between purchaser and beneficiary, there may be a stronger guarantee of timely access to health care.

Risks

Option 2 involves a substantial number of risks.

Complexity: Purchaser competition adds considerably to the overall complexity of the health system, implying higher transaction costs and – without further

intervention – lower levels of transparency. Most of the other risks are a direct consequence of this complexity.

Failure to ensure appropriate and effective regulation – including sophisticated risk adjustment – due to lack of capacity or regulatory capture: Option 2 requires substantial regulatory capacity to ensure fair competition, consumer protection and consumer mobility. This would be demanding in any context. It is particularly challenging in the case of Cyprus for two main reasons. First, Cyprus does not have a history of governing multiple purchasing agencies offering mandatory health benefits, in contrast to Belgium, Germany, Israel, the Netherlands and Switzerland. Second, Cyprus does not yet have the information systems and payment mechanisms (DRGs) needed for a sophisticated risk adjustment formula. Without robust risk adjustment it is difficult to minimise risk selection and, at the same time, ensure purchasers have incentives to enhance efficiency.

The relatively small size of the population to be covered by the NHS – around 858,000 people in 2013 (Statistics Cyprus) – makes the need for sophisticated risk adjustment in a competitive environment all the more important. Active purchasing requires risk pools involving at least 150,000 to 200,000 people. This means that the NHS would need to be limited to a maximum of five or six private insurers.

Designing an effective risk adjustment formula is not difficult to do ‘on paper’. Cyprus can adapt the advanced formulas used in Germany and the Netherlands. It is developing the information and payment systems needed to feed the formulas that is the challenge. Although Cyprus is now working to set up a national IT system and introduce DRGs, both will take time to establish. Once these are operational, at least two years of health care data – and the ability to link individual-level health, health care and socio-economic data – are needed for a risk adjustment formula that is sophisticated enough to minimise risk selection and enable private insurers to bear financial risk. The government could try to develop a relatively sophisticated risk adjustment mechanism in a shorter period of time (for example, a year), but there are no examples of countries that have succeeded in doing this. As a transitional corrective measure, a cruder risk adjustment formula could be accompanied by ex-post compensation of a share of purchasers’ health care spending (sometimes referred to as risk sharing or risk corridors). Ex-post compensation lowers incentives for risk selection but also dampens incentives to enhance efficiency.

Finally, there is the risk of regulatory capture, in which the government fails to put in place adequate mechanisms for oversight and regulation due to resistance and lobbying on the part of private insurers. Because of this, international experience suggests that sophisticated risk adjustment is easier and quicker to implement if it is developed *before* the introduction of purchaser competition than if it is developed once competition is already in place.

Data protection concerns: Data protection is a concern if private insurers are involved in the NHS. The government will need to ensure that health data cannot be shared with other lines of insurance business and used to select risks in other areas of insurance. Existing claims data held by private insurers can be used by the

government to develop a risk adjustment mechanism, but the government will first need to ensure it has the right to make use of this data for purposes other than originally intended. This may require a change in the law.

EU legal concerns: Private insurance is subject to European Union law, including competition and single market rules. EU legal concerns about institutional arrangements have been raised in the Netherlands and the Slovak Republic, the two EU member states in which mandatory health insurance is operated by private insurers (Thomson and Mossialos 2010).

Fragmented purchasing power weakens leverage over providers: Multiple purchasers will in theory have less leverage over providers in comparison to a single purchaser. In either option, however, the extent to which leverage is used to enhance efficiency and quality will depend on the presence of appropriate incentives and tools.

Higher transaction costs: Transaction costs are likely to be high under option 2. This is not just because of the indirect costs associated with added complexity and having to deal with more than one purchasing agency. It is also due to the direct costs of establishing new agencies to carry out additional tasks such as risk adjustment and the need for regulation of private insurers.

Fiscal pressures: The government's ability to control public spending on health is more constrained under option 2, in part due to the introduction of a more legally binding entitlement to health benefits. We discuss this further below.

Implications for government

Option 2 presents five main challenges for the government: capacity to manage a highly complex system; developing sophisticated risk adjustment; dealing with uncertainty; ensuring consumer protection (information, transparency and solvency requirements); and addressing fiscal concerns.

Introducing purchaser competition will change the role of government in the health system and stretch the government's capacity and resources. It will involve a large amount of preparatory work and additional skills and resources to manage the system once it is operational. This is particularly challenging in Cyprus because Cyprus does not have any history of governing multiple purchasing agencies offering mandatory health benefits. The government will have to invest in an explicit definition of health care entitlements. It will also have to establish new rules to regulate purchaser competition, protect consumers, ensure consumer mobility and minimise risk selection, including sophisticated risk adjustment and the separation of mandatory and voluntary health insurance business.

Effective competition requires sophisticated risk adjustment but Cyprus does not yet have the information systems needed to develop this. Without robust risk adjustment

it is extremely difficult to minimise risk selection and, at the same time, ensure purchasers have incentives to enhance efficiency.

The use of private insurers under the NHS subjects the system to EU law, creating a degree of legal uncertainty.

Ensuring consumer protection may be a challenge. Studies suggest that countries with competitive purchasing have not paid enough attention to information and transparency; higher risk people face higher transaction costs when moving from one insurer to another and consistently find it more difficult to move than people without health problems (Roos and Schut 2012, van de Ven et al 2013, Duijmelinck et al 2014). This may dampen purchaser incentives to provide good quality care for higher risk people.

The government will need to ensure public scrutiny of the activities and performance of the HIO and health care providers under option 1. Under option 2 this requirement is even stronger if purchasers are to have incentives to improve quality, because understanding differences in quality across purchasers and providers ought to be a key driver of enrollee and patient choice.

Solvency requirements are an issue in a system involving private insurers. The level of solvency required depends in part on the sophistication of risk adjustment. In the Netherlands the solvency requirement for private insurers offering mandatory health insurance is 11% of premium income. Insurers in Cyprus might need some additional buffer due to having a smaller population. Reaching 11% of total health insurance revenue under the NHS – about €90 million – would require additional solvency.

To address fiscal concerns in a competitive system, the government will need to be active in developing instruments to prevent undue increases in spending on health. In recent years, the Netherlands has introduced new tools to control public and private expenditure growth – for example, financial penalties for *all* health care providers in a given sector when a nominal global budget is exceeded – although these may have the effect of dampening both purchaser and provider incentives for efficiency (Thewissen et al 2015). To control spending, the Netherlands has also returned to using more traditional mechanisms such as corporatist negotiation in which the government, purchasers and providers collectively agree to adhere to a fixed rate of expenditure growth.

Implications for private insurers

Option 2 has serious implications for private insurers in terms of regulation, oversight and public scrutiny; administrative costs; and market consolidation. Under the NHS, private insurers will be subject to stringent regulation and oversight and a much greater degree of public scrutiny and transparency than is the case at present, as shown in Table 9.

They will not be able to sustain their high administrative costs – around 35% of revenue, including profit – and will have to work hard to bring them down to meet (for example) the cap of 5% of revenue the government currently plans to apply to the HIO. Market consolidation will help, but private insurers will also need to move away from the current business model of low numbers of enrollees, high operating costs and high margins towards a model based on a much higher number of enrollees, much lower operating costs and lower margins. The design of the NHS will play a role in lowering administrative costs – for example, there will be no need for underwriting for mandatory benefits. However, if NHS design and market consolidation are not sufficiently effective, the government may have to introduce a minimum level of premium income to be spent on health care (known as a minimum claims or minimum loss ratio), as applied to private insurers in the United States under the Affordable Care Act (Kirchoff 2014), or a cap on administrative costs, as used in Belgium and Germany (Thomson et al 2013).

Market consolidation under the NHS is inevitable and desirable. A market with more than a small number of purchasing agencies will result in small risk pools, threatening consumer protection. Having too many insurers also undermines transparency and the effectiveness of choice. In general, the market for health insurance suffers from multiple information failures; it is a classic example of ‘less being more’. A uniform benefits package is therefore an essential requirement for effective choice of purchasing agency. Also, evidence from Switzerland shows how offering people more choice in terms of having greater numbers of insurers (not just products) makes people less likely to move from one insurer to another (Frank and Lamiraud 2009). The Netherlands has 11 insurers covering a population of 17 million people and in 2013 the four largest insurers had a market share of about 90% (Thewissen et al 2015). To achieve viable risk pools in Cyprus, the NHS would need to be limited to a maximum of five or six insurers.

It will be important to ensure that health business is separated from other lines of insurance business, both to protect data privacy and to prevent risk selection across lines of business and in the mandatory health insurance part of the market. The government will have to make sure consumers are aware of their rights so that there is no possibility for insurers to link the sale of mandatory and voluntary benefits.

Implications for health care providers

Under option 2, the NHS will require adjustment on the part of *private* providers, who are likely to have to accept lower prices in return for higher volume and to operate under a greater degree of oversight and scrutiny, potentially involving monitoring of and public reporting on their performance. Option 2 will probably require greater adjustment for *public* providers, who will need to be able to compete with private providers and operate under similar conditions. Again, as with option 1, *all* types of providers are likely to be subject to new forms of provider payment that require them to accept a degree of financial risk.

Table 9 Regulation of private health insurance now and under the NHS

Nature of regulation	Current PHI market	NHS with competing insurers	
		Mandatory coverage	Voluntary health insurance
Nationally uniform benefits package defined by government	x	✓	x
Nationally uniform user charges defined by government	x	✓	x
Open enrolment, lifetime cover, no age limits	x	✓	x
No medical underwriting	x	✓	x
Risk-adjusted revenue to prevent risk selection	x	✓	x
Cap on administrative costs (minimum claims ratio)	x	✓	x
Prohibition of linked sale of mandatory and voluntary cover	x	✓	x
Separation of mandatory and voluntary business	x	✓	x
Cap on the number of insurers in the market	x	✓	x

Source: Authors

8 Option 3: Competition between the HIO and private insurers

Rationale

Option 3 envisages a system in which the HIO and private insurers compete to offer NHS benefits. It enables a transition period in which the HIO covers a part of the population because private insurers do not have adequate solvency to cover the whole population. Alternatively, it allows the HIO to offer a safety net in case risk adjustment is initially weak due to lack of data, which would encourage risk selection by private insurers and increase the likelihood of insolvency.

A transition role: The government might favour a transition arrangement, in which the NHS is introduced with the HIO offering NHS benefits alongside private insurers, for the following reasons:

- To compensate for the absence of sophisticated risk adjustment: if purchaser competition is introduced with a less than robust risk adjustment formula, private insurers will have strong incentives to select risks and will not have strong incentives to improve quality of care. In such a case, the HIO will be expected to play a role in ensuring that people who do not receive good customer service or high-quality care from private insurers have an alternative.
- To compensate for inadequate solvency among private insurers: if private insurers do not have adequate solvency to allow them to absorb a rapid expansion in the number of enrolees – that is, to grow from providing partial coverage to around a fifth of the population at present to providing comprehensive coverage to the whole population – the HIO could temporarily cover a share of the population, backed by solvency from the government. Once private insurers were able to enrol all permanent residents without risk of insolvency, the HIO would no longer be needed as a purchasing agency.

Operationalising such a transition and creating a level playing field for the HIO and private insurers involves significant challenges. We discuss these in more detail under the sub-section ‘implications for government’ below.

A permanent role: The government may favour a permanent role for the HIO, either because it feels the presence of a non-profit entity offers advantages in comparison to commercial, for-profit private insurers, or so that the HIO can operate as a safety net backed by public guarantees and required to take on the enrolees of private insurers that go out of business (a role that could equally be carried out by private insurers). In general, however, it takes more than legal status to ensure purchasers behave in a desired manner. While ownership may play a role, incentives matter. In addition, if risk adjustment is not sophisticated or if private insurers have access to other tools to select risks (for example, linked sales of NHS benefits and VHI), the HIO is likely to cover a disproportionate share of higher-risk people, requiring additional public funding and potentially exposing the government to EU

legal challenge. As a result, other mechanisms for protecting people against insurer insolvency are likely to be cheaper and less problematic.

Policy design

Design details are not specified in policy documents but are critically important. The assumptions we have made about key design features are set out in section 2 and can be summarised as follows:

- mandatory coverage of all permanent residents with a comprehensive and uniform benefits package financed through income-related pre-payment
- central collection and central pooling of public funds for the health system
- open enrolment providing lifetime cover (guaranteed renewal), cover of pre-existing conditions and portability of benefits for the uniform benefits package
- centrally determined policy on a uniform benefits package, user charges, provider payment, prices and priority setting
- patient choice of contracted public or private provider
- a continuing role for voluntary health insurance (VHI) offered by private insurers

Requirements

The requirements for option 2 also apply to option 3. These are as follows (see section 7 for details):

- purchasers need to bear financial risk
- solvency of private insurers for consumer protection
- explicitly defined entitlements for beneficiaries
- stringent regulation of private insurers to ensure consumer mobility
- sophisticated risk adjustment to minimise incentives for risk selection and ensure fair competition
- the separation of mandatory and VHI business to minimise incentives for risk selection
- the setting up of new agencies

In addition to these requirements, the following are also needed for option 3:

- a level playing field for public and private purchasers
- a new agency to ensure separation of the collection, pooling and allocation of public funds from public purchasing; the HIO should not be responsible for the functions of a central fund if it also a purchasing agency competing with other purchasers
- solvency arrangements for the public purchaser

Advantages

Option 3 offers the same advantages as option 2:

- giving people choice of purchasing agency is a strong incentive for making purchasers responsive to (easily measurable) public expectations
- the threat of exit may encourage more active purchasing, but only if requirements are met
- health care as a legally binding contractual entitlement under private law

Option 3 enables a transition period in which the HIO covers a part of the population because private insurers do not have adequate solvency to cover the whole population. Alternatively, it allows the HIO to offer a safety net in case risk adjustment is initially weak due to lack of data, which would encourage risk selection by private insurers and increase the likelihood of insolvency.

Risks

Option 3 involves the same risks as option 2:

- substantial complexity
- failure to ensure appropriate and effective regulation – including sophisticated risk adjustment – due to lack of capacity or regulatory capture
- data protection concerns
- EU legal concerns
- fragmented purchasing power weakens leverage over providers
- higher transaction costs
- fiscal pressures

It also creates the following additional risks:

- risk segmentation between public and private purchasers, resulting in cost shifting to the HIO and exacerbating fiscal pressures
- greater complexity, higher transaction costs, challenges for governance due to the need to create a level playing field between public and private purchasers and increased potential for EU legal challenges due to the involvement of public and private entities
- failure to move to option 2 (if option 3 is seen as a transition measure) due to inertia or regulatory capture

We discuss these risks in more detail in the following paragraphs.

Risk segmentation and cost shifting leading to two-tier access: This is the most important risk in terms of health system performance. Without sophisticated risk adjustment, a highly likely outcome is that the population will be segmented by risk, with the public purchasing agency covering a disproportionately high-risk group of people and private insurers covering a greater share of low-risk people. This shifts costs onto the public purchasing agency and increases the fiscal pressure it faces. The HIO does not have reserves to draw on, so if additional public funds are not made available to address the fiscal pressure created by risk selection and risk segmentation, it may have to lower financial protection and quality, resulting in two-tier access to health care.

Greater complexity, higher transaction costs and challenges for governance:

Option 3 will require a fundamental shift in governance. The HIO could not operate as the public purchaser and at the same time fulfil the role of a central fund responsible for pooling and allocating public funds (as it could under option 2). A new agency would need to be established.

Attempting to create a level playing field in a market involving a mix of public and private purchasers and providers is challenging, partly due to the greater number of actors involved and partly due to greater opportunity for accusations of unfair treatment. The risk of being challenged under EU law is generally greater under option 3 than under option 2, due to the involvement of both public and private purchasers.

Failure to move to option 2 due to inertia or regulatory capture: The presence of a transition arrangement may lower pressure for change on the part of the government.

Implications for government

To enable private insurers to expand market share more slowly and build up adequate solvency reserves, the government will have to ensure that the HIO covers a share of the population in the early stages of the NHS. This would require changing the NHS law so that it is clear that choice of purchaser will not apply to the whole population initially, but on the basis of explicit criteria – for example, income – effectively segmenting the population *by design*.

In the absence of data good enough for sophisticated risk adjustment, the government could develop a cruder, transitional formula adapted explicitly to favour high-need, high-cost patients or make use of ex-post compensation. A less than robust risk adjustment formula could trigger a legal challenge on state aid grounds.

If the HIO covers a disproportionate share of higher-risk people by design or because of weak risk adjustment, it will face higher-than-average health care costs and require additional public funding to meet the needs of its enrollees. Without sufficient additional funding, it will have to limit access to health care or lower the quality of care, resulting in a two-tier NHS. The provision of additional public funding may be difficult for fiscal reasons and could also trigger EU legal challenges around state aid.

Over time, it would be possible to address the issue of two-tier access and quality. However, the experience of the Czech Republic – the only country in Europe with something akin to option 3 (an insurer of last resort competing with other quasi-public, self-governing entities) – suggests this may not be straightforward.

The risks of introducing competition before putting in place a sophisticated risk adjustment mechanism may be magnified under option 3, especially if it is regarded

as a transition measure. This is because the presence of the HIO as a safety net may lower pressure on the government to strengthen risk adjustment.

A clear implication for option 3 is that it is essential to create and operate a sophisticated risk adjustment mechanism *before* opening up the market to private insurers. Otherwise, the status quo bias of older and sicker people, combined with weak risk adjustment, would almost certainly mean the HIO would not have adequate resources in comparison to its competitors, to the disadvantage of its enrollees. If purchasers have to cope with risk segmentation that is not adequately compensated, they will struggle to improve performance. If they are able to select risks relatively easily, they will not have incentives to enhance quality and efficiency. As a result, some of the critical advantages of the NHS may not materialise under option 3.

Implications for private insurers

A system in which private insurers compete with the HIO works to the advantage of private insurers because it is likely to enhance their ability to select risks and increases the probability of risk segmentation. If the HIO plays a safety net role, there may be less pressure on the government to ensure consumer mobility, consumer protection and fair competition, meaning that private insurers do not experience as much public oversight and scrutiny as they would under option 2. Having said that, it is unlikely that private insurers will be able to continue to operate as at present under option 3. They will still need to prepare for a change in business model and find ways to operate with substantially reduced administrative costs. As under option 2, market consolidation is inevitable and desirable.

Implications for health care providers

The implications for health care providers under option 3 depend to a large extent on the detail of policy design.

9 Comparison of options

The rationale for and requirements of the three options, as well as their advantages and risks, are summarised in Tables 9 and 10. Table 11 summarises implications for the government, private insurers and health care providers. Table 12 summarises policies that need to be in place for the effective functioning of different options.

Table 9 Comparison of options: rationale, policy design and requirements

	Option 1: the HIO as single purchaser	Option 2: competition among private purchasing agencies	Option 3: competition between the HIO and private insurers
Rationale	An independent risk-bearing single purchaser with information, instruments and incentives for active purchasing; substantial leverage over providers; the ability to benefit from economies of scale; and low administrative costs. Accountable to government and to the public through tripartite supervision (government, employers, employees), transparent oversight and public reporting.	Independent private insurers offering choice of purchasing agency and with information, instruments and incentives for active purchasing. Incentives for active purchasing come from bearing risk and the threat of losing enrollees.	The presence of a public purchaser offers a safety net in case of bankruptcy among private insurers OR allows coverage of all permanent residents until private insurers are able to do so without risk of insolvency.
Policy design	Important details are set out in the draft NHS law and other documents.	Details are not specified but are critically important.	Details are not specified but are critically important.
Requirements specific to each option	<ul style="list-style-type: none"> ▪ Oversight requires political or economic counterweight to the purchaser (eg government or other payers such as employers and employees) ▪ Clear definition of the respective competencies of the MOH and the purchaser 	<ul style="list-style-type: none"> ▪ Clearly defined entitlements for beneficiaries, including an explicitly defined benefits package and standards for quality ▪ Stringent regulation of purchasers to ensure consumer protection, consumer mobility (open enrolment, cover of pre-existing conditions, uniform benefits) and transparent comparative information on purchaser performance ▪ Sophisticated risk adjustment to minimise incentives for risk selection ▪ New agencies to pool and allocate public funds, carry out risk adjustment and ensure fair competition ▪ Separation of mandatory and voluntary health insurance business 	<p>The same as option 2 plus:</p> <ul style="list-style-type: none"> ▪ A level playing field for public and private purchasers ▪ Separation of the collection, pooling and allocation of public funds from public purchasing ▪ Solvency arrangements for the public purchaser
Requirements common to all options	<ul style="list-style-type: none"> ▪ MOH creates a stable and transparent environment for purchasing, develops strong information systems, makes available instruments for active purchasing and establishes a framework for monitoring purchaser and provider performance ▪ Purchasers bear financial risk 		

Table 10 Comparison of options: advantages, risks and implications for health system performance

	Option 1: the HIO as single purchaser	Option 2: competition among private purchasing agencies	Option 3: competition between the HIO and private insurers
Advantages	<ul style="list-style-type: none"> ▪ A unified risk pool for efficiency and equity ▪ Stronger leverage over providers ▪ The ability to benefit from economies of scale ▪ Lower transaction costs for the health system: no need for risk adjustment, additional regulation and oversight of private insurers, marketing costs or profit margins ▪ Lower transaction costs for providers (only one purchasing agency to deal with) ▪ More scope for policy action by government ▪ Simplicity 	<ul style="list-style-type: none"> ▪ Offers the public choice of purchasing agency ▪ The threat of exit may encourage more effective purchasing and responsiveness, but only if the requirements above are met 	<p>The same advantages as option 2 plus;</p> <ul style="list-style-type: none"> ▪ Transition options ▪ A safety net function
Risks	<ul style="list-style-type: none"> ▪ HIO is not responsive due to lack of an ‘exit’ option for beneficiaries ▪ Public administration inertia does not encourage strong performance by the MOH or the HIO ▪ Conflict between the MOH and the HIO draws the focus away from purchasing 	<ul style="list-style-type: none"> ▪ Complexity ▪ Lack of regulatory capacity ▪ Regulatory capture ▪ Intensive information requirements for sophisticated risk adjustment are not met, leading to risk selection ▪ Lack of transparency and information undermines consumer mobility ▪ Fragmented purchasing power weakens leverage over providers ▪ Risk adjustment gives rise to data protection concerns ▪ High transaction costs ▪ Fiscal risks if the requirements above are not met ▪ EU legal concerns 	<p>The same risks as option 2 plus:</p> <ul style="list-style-type: none"> ▪ Risk segmentation of the population with the HIO covering a disproportionate share of higher-risk people ▪ Greater complexity ▪ Difficulty of creating a level playing field between public and private purchasers ▪ EU legal concerns are potentially greater ▪ Failure to move to option 2 due to inertia or regulatory capture
Implications for health system performance if requirements are not met	<ul style="list-style-type: none"> ▪ Purchaser not responsive to public expectations ▪ Weak incentives for efficiency and quality in service delivery 	<ul style="list-style-type: none"> ▪ Purchasers less responsive to public expectations ▪ Weak incentives for efficiency and quality in service delivery ▪ Lower administrative efficiency ▪ More inequity of access if risk selection occurs ▪ Higher public spending on the health system without commensurate benefits 	<p>The same risks as option 2 plus:</p> <ul style="list-style-type: none"> ▪ Greater potential for inequity of access to health care due to risk segmentation and cost shifting

Table 11 Comparison of options: implications for government, private insurers and health care providers

Implications	Option 1: a single purchaser	Option 2: competition among purchasing agencies (private insurers)	Option 3: competition between a single public and multiple private insurers
Implications for government	<ul style="list-style-type: none"> ▪ Will need to find levers to encourage strong performance from the purchasing agency ▪ Will need to ensure the availability of transparent comparative information on health care provision ▪ Will need to create an IT system that is able to handle claims and purchasing 	<p>Same as option 1 plus:</p> <ul style="list-style-type: none"> ▪ Will need to define a benefits package ▪ Will need to establish agencies to pool and allocate public funds, carry out risk adjustment and ensure fair competition ▪ Will need to ensure the availability of transparent comparative information on purchasers ▪ Will need to pay attention to EU law 	<p>Same as options 1 and 2 plus:</p> <ul style="list-style-type: none"> ▪ Will need to create a level playing field between public and private purchasers ▪ Will need to pay especially careful attention to EU law
Implications for private insurers	<ul style="list-style-type: none"> ▪ Regulation stays the same ▪ Premium income is likely to fall ▪ Insurers will need to develop new products to meet coverage gaps under the NHS ▪ Insurers will need to operate more efficiently to maintain profit margins ▪ Mergers are likely 	<ul style="list-style-type: none"> ▪ Regulation of VHI stays the same ▪ Insurers offering mandatory coverage will be subject to substantial new regulation and greater oversight ▪ Insurers will need to operate much more transparently ▪ Insurers will need to operate much more efficiently to maintain profit margins ▪ Insurer transaction costs will be lower due to prohibition of underwriting, third-party payment of providers rather than reimbursement, less need for intermediaries and public reinsurance ▪ Mergers will be necessary (unless the market is only open to selected insurers) 	<p>Same as option 2 plus:</p> <ul style="list-style-type: none"> ▪ Transparency requirements may be greater to satisfy the need to create a level playing field between public and private purchasers
Implications for health care providers	<ul style="list-style-type: none"> ▪ Private providers will need to adjust to new arrangements or will lose business (higher volume, lower prices) ▪ Public providers need much greater autonomy 	<p>Same as option 1 plus:</p> <ul style="list-style-type: none"> ▪ Private provider need for adjustment may be less intense ▪ Higher transaction costs for public providers due to the presence of more payers 	<p>Same as option 2 plus:</p> <ul style="list-style-type: none"> ▪ Private provider need for adjustment may be less intense ▪ Higher transaction costs for public providers due to the presence of more payers

Table 12 Policies needed for the effective functioning of different options

Policies not yet in place but needed for effective functioning of all options:	Policies needed to facilitate:		
	Option 1 (HIO)	Option 2 (private insurers)	Option 3 (HIO and private insurers)
Greater autonomy for public hospitals	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider
Central fund to pool public revenues and allocate (risk-adjusted) resources	<ul style="list-style-type: none"> ▪ Pooling ▪ Allocating resources to regions and supra-regional services 	<ul style="list-style-type: none"> ▪ Pooling ▪ Risk adjustment and allocating resources to purchasers 	<ul style="list-style-type: none"> ▪ Pooling ▪ Risk adjustment and allocating resources to purchasers
Payment mechanisms	<ul style="list-style-type: none"> ▪ Allocating resources to providers 	<ul style="list-style-type: none"> ▪ Allocating resources to providers 	<ul style="list-style-type: none"> ▪ Allocating resources to providers
National IT system with unique patient identifier	<ul style="list-style-type: none"> ▪ Patient choice of provider ▪ Paying providers ▪ Compliance 	<ul style="list-style-type: none"> ▪ Patient choice of provider ▪ Paying providers ▪ Compliance ▪ Risk adjustment 	<ul style="list-style-type: none"> ▪ Patient choice of provider ▪ Paying providers ▪ Compliance ▪ Risk adjustment
National e-prescribing system	<ul style="list-style-type: none"> ▪ Active purchasing 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Sophisticated risk adjustment 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Sophisticated risk adjustment
Comparative information on provider quality	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider 	<ul style="list-style-type: none"> ▪ Active purchasing ▪ Patient choice of provider
(Comparative) information on purchaser quality	<ul style="list-style-type: none"> ▪ Transparency and accountability 	<ul style="list-style-type: none"> ▪ Consumer mobility ▪ Transparency and accountability 	<ul style="list-style-type: none"> ▪ Consumer mobility ▪ Transparency and accountability
Policies not yet in place but needed for effective functioning of option 2 and option 3			
Explicit definition of a national benefits package		<ul style="list-style-type: none"> ▪ Consumer mobility and transparency ▪ Patient rights under private law 	<ul style="list-style-type: none"> ▪ Consumer mobility and transparency ▪ Patient rights under private law
Health system competition regulator		<ul style="list-style-type: none"> ▪ Fair competition 	<ul style="list-style-type: none"> ▪ Fair competition
Ability to link individual-level data on health status, health utilisation, demographic status (age, sex) and socio-economic characteristics (area of residence, source of income etc)		<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment 	<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment
Data on prior utilisation to identify pharmaceutical consumption, diagnostic cost groups, use of expensive aids		<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment 	<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment
Data on prior utilisation to identify multi-year high-cost patients		<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment 	<ul style="list-style-type: none"> ▪ Sophisticated risk adjustment

10 Conclusions

There are advantages, risks and challenges under all three options examined in this report. No option will be effective in strengthening health system performance without strong government capacity to set priorities, monitor performance and hold stakeholders to account.

If the government introduces competition among purchasing agencies as a policy instrument to strengthen the health system, international evidence and analysis of the current situation in Cyprus suggest it would be advisable to:

- learn from international experience and understand the differences between Cyprus and other countries that use this instrument
- pay careful attention to sequencing; developing a sophisticated risk adjustment mechanism first, before introducing competition, would avoid the costs and major risks to health system performance associated with inadequate risk adjustment
- be aware of the complexity and transaction costs associated with the need for robust risk adjustment, additional regulation and oversight of private insurers and monitoring to ensure fair competition, information and transparency, consumer mobility and consumer protection; and of the potential for fiscal pressure if the requirements for effective competition are not met
- understand the different nature of responsibilities involved in governing purchaser competition and the additional burden it is likely to place on government capacity and resources
- note the potential for EU legal challenges

Being well prepared minimises the need for risky transition measures and enhances the likelihood of achieving outcomes in line with NHS principles.

Whichever option is selected, the government should invest in communicating its rationale and functioning to all health system stakeholders, especially the public.

References

- Barr N (2004) *The Economics of the Welfare State*, 4th edition, Oxford: Oxford University Press
- Bryndová L, K Pavloková, T Roubal, M Rosková and M Gaskins (2009) Czech Republic: health system review, *Health Systems in Transition* 11(1): 1-122
<http://www.euro.who.int/en/about-us/partners/observatory/publications/health-system-reviews-hits/countries-and-subregions/czech-republic-hit-2009>
- Buchner F, D Göppfarth and J Wasem (2013) The new risk adjustment formula in Germany: implementation and first experiences, *Health Policy* 109(3): 253–62
<http://www.healthpolicyjrn.com/article/S0168-8510%2812%2900316-8/abstract>
- Buchmueller T and Feldstein P (1997) The effect of price on switching among health plans, *Journal of Health Economics* 16(2): 231–47
<http://www.sciencedirect.com/science/article/pii/S0167629696005310>
- Busse R and Blümel M (2014) Germany: health system review, *Health Systems in Transition* 16(2):1–296
<http://www.euro.who.int/en/about-us/partners/observatory/publications/health-system-reviews-hits/countries-and-subregions/germany-hit-2014>
- Cohn J (2011), *Lessons from abroad: the Dutch health care system*, Part 1, New York: The Commonwealth Fund
<http://www.commonwealthfund.org/publications/blog/2011/oct/lessons-from-abroad>
- Cunningham R (2012), Health policy brief: risk adjustment in health insurance, *Health Affairs* (August 30, 2012)
http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=74
- Duijmelinck D, I Mosca and W van de Ven (2014) Switching benefits and costs in competitive health insurance markets: A conceptual framework and empirical evidence from the Netherlands, *Health Policy* in press corrected proof
<http://www.healthpolicyjrn.com/article/S0168-8510%2814%2900330-3/abstract>
- Eurostat (2015) EU SILC data, <http://ec.europa.eu/eurostat>
- European Commission (2007) Health and long-term care in the European Union, Eurobarometer Survey, Brussels: European Commission
http://ec.europa.eu/public_opinion/archives/eb_special_300_280_en.htm
- Ettelt S and A Roman (2015 in press) Statutory and private health insurance in Germany and Chile: two tales of co-existence and conflict, in Thomson S and E Mossialos (eds), *Private health insurance and medical savings accounts in 20 countries: history, politics, performance*, Cambridge: Cambridge University Press

- Figueras J, R Robinson and E Jakubowski (eds) (2005) *Purchasing to improve health systems performance*, Buckingham: Open University Press
<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/purchasing-to-improve-health-systems-performance>
- Foubister T, S Thomson, E Mossialos and A McGuire (2005) *Private medical insurance in the United Kingdom*, Copenhagen: WHO and European Observatory on Health Systems and Policies
<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/private-medical-insurance-in-the-united-kingdom>
- Frank R and K Lamiraud (2009) Choice, price competition and complexity in markets for health insurance, *Journal of Economic Behavior and Organization* 71(2): 550-62
<http://www.sciencedirect.com/science/article/pii/S0167268109001139>
- IAC (2014) *Gross claims health 2004-2014*, Nicosia: Insurance Association of Cyprus
- IAC (2015) *Annual preliminary insurance statistics 2013-2015*, Nicosia: Insurance Association of Cyprus
- ICCS (2014) Report on insurance in Cyprus 2013, Nicosia: Insurance Companies Control Service,
[http://www.mof.gov.cy/mof/mof.nsf/0/13ACB390334CCA8AC2257547002D808D/\\$file/Report%20on%20Insurance%20in%20Cyprus%20-%202013.pdf](http://www.mof.gov.cy/mof/mof.nsf/0/13ACB390334CCA8AC2257547002D808D/$file/Report%20on%20Insurance%20in%20Cyprus%20-%202013.pdf)
- Jeurissen P (2010) For-profit hospitals. A comparative and longitudinal study of the for-profit hospital sector in four western countries, Rotterdam: Erasmus University
- Joumard I, A Christophe, C Nicq (2010) *Health care systems: efficiency and institutions*, Paris: OECD
<http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=eco/wkp%282010%2925>
- Kirchoff S (2014) *Medical loss ratio requirements under the Patient Protection and Affordable Care Act (ACA): issues for Congress*, Washington DC: Congressional Research Service
<http://fas.org/sgp/crs/misc/R42735.pdf>
- Kutzin J, C Cashin and M Jakab (eds) (2010) *Implementing health financing reform: lessons from countries in transition*, Copenhagen: WHO and European Observatory on Health Systems and Policies.
<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/implementing-health-financing-reform-lessons-from-countries-in-transition>

McIntyre D and J Kutzin (2014) *Guidance on conducting a situation analysis of health financing for universal health coverage*, Version 1.0, Geneva: World Health Organization

http://www.who.int/health_financing/tools/hf_for_uhc_situation_analysis_v1.0.pdf

Mercer (2013) Actuarial study of Cyprus national health expenditure and national health system Health Insurance Organisation

Ministry of Health of Cyprus (2011) *Health and hospital statistics*

Ministry of Health of Cyprus (2014) *Hospital statistics*

Mossialos E, G Permanand, R Baeten and T Hervey (eds) (2010) *Health systems governance in Europe: the role of European Union law and policy*, Cambridge: Cambridge University Press

<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/health-systems-governance-in-europe-the-role-of-eu-law-and-policy>

OECD (2015) *Health statistics*, <http://data.oecd.org/health.htm>

Paolucci F, F Schut, K Beck, S Greß, C Van de Voorde and I Zmora (2007) Supplementary health insurance as a tool for risk selection in mandatory basic health insurance markets, *Health Economics, Policy and Law* 2(2): 173–92

<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=1164744&fileId=S1744133107004124>

Popovich L, E Potapchik, S Shishkin, E Richardson, A Vacroux and B Mathivet (2011) Russian Federation: Health system review. *Health Systems in Transition* 13(7): 1-190

<http://www.euro.who.int/en/about-us/partners/observatory/publications/health-system-reviews-hits/countries-and-subregions/russian-federation-hit-2011>

Roos A-F and F Schut (2012) Spillover effects of supplementary on basic health insurance: evidence from the Netherlands, *European Journal of Health Economics* 13(1): 52-61

<http://link.springer.com/article/10.1007%2Fs10198-010-0279-6>

Rosen B and Merkur S (2009) Israel: Health system review. *Health Systems in Transition* 11(2): 1-226.

<http://www.euro.who.int/en/about-us/partners/observatory/publications/health-system-reviews-hits/countries-and-subregions/israel-hit-2009>

Savedoff W and P Gottret (2008) *Governing mandatory health insurance*, Washington DC: The World Bank

<http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/Peer-Reviewed-Publications/GovMandatoryHlthIns.pdf>

Smith PC, A Anell, R Busse, L Crivelli, J Healy, A Lindahl, G Westert and T Kene (2012) Leadership and governance in seven developed health systems, *Health Policy* 106: 37-49

<http://www.healthpolicyjrn.com/article/S0168-8510%2811%2900288-0/abstract>

Szalay T, P Pažitný, A Szalayová, S Frisová, K Morvay, M Petrovir and E van Ginneken E (2011) Slovakia: Health system review, *Health Systems in Transition*; 13(2): 1-200

<http://www.euro.who.int/en/about-us/partners/observatory/publications/health-system-reviews-hits/countries-and-subregions/slovakia-hit-2011>

Theodorou M, C Charalambous, C Petrou and J Cylus (2012) Cyprus: Health system review, *Health Systems in Transition* 14(6): 1-128

Thewissen S, P Jeurissen and G van der Vlugt (2015 in press) Healthcare Budgeting in the Netherlands, in Vammalle C and C James (eds), *Fiscal sustainability of health systems: bridging health and finance perspectives*, Paris: OECD

Thomson S and E Mossialos (2006) Choice of public or private health insurance: learning from the experience of Germany and the Netherlands, *Journal of European Social Policy* 16(4): 315-327

<http://esp.sagepub.com/content/16/4/315.abstract>

Thomson S and E Mossialos (2009) *Private health insurance in the European Union*, Brussels: European Commission Directorate General for Employment, Social Affairs and Equal Opportunities

<http://ec.europa.eu/social/main.jsp?catId=754&langId=en>

Thomson S and E Mossialos (2010) Private health insurance and the internal market, in , Mossialos E, G Permanand, R Baeten and T Hervey (eds) (2010) *Health systems governance in Europe: the role of European Union law and policy*, Cambridge: Cambridge University Press

<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/health-systems-governance-in-europe-the-role-of-eu-law-and-policy>

Thomson S, Foubister T and Mossialos E (2009) *Financing health care in the European Union*, Copenhagen: WHO on behalf of the European Observatory on Health Systems and Policies

<http://www.euro.who.int/en/about-us/partners/observatory/publications/studies/financing-health-care-in-the-european-union>

Thomson S, R Busse, L Crivelli, W van de Ven and C Van de Voorde (2013) Statutory health insurance competition in Europe: a four-country comparison, *Health Policy* 109: 209-225

<http://www.healthpolicyjrn.com/article/S0168-8510%2813%2900015-8/abstract>

van de Ven W (2011) Risk adjustment and risk equalization: what needs to be done? *Health Economics, Policy and Law* 6(1): 147-56
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8011208>

van de Ven W and R Ellis (1999) Risk adjustment in competitive health plan markets, in Newhouse J and A Culyer (eds), *Handbook of health economics*, Amsterdam: Elsevier: 755-845
<http://www.sciencedirect.com/science/article/pii/S1574006400801730>

van de Ven W, K Beck, Buchner, E Schokkaert, F Schut, A Shmueli and J Wasem (2013) Preconditions for efficiency and affordability in competitive healthcare markets: Are they fulfilled in Belgium, Germany, Israel, the Netherlands and Switzerland? *Health Policy* 109: 226-245
<http://www.healthpolicyjrn.com/article/S0168-8510%2813%2900012-2/abstract>

van Ginneken E, K Swartz and P Van der Wees (2013) Health Insurance Exchanges In Switzerland And The Netherlands Offer Five Key Lessons For The Operations Of US Exchanges, *Health Affairs* 32(4):744-752
<http://www.ncbi.nlm.nih.gov/pubmed/23569055>

VZP (2015) *Information about public health insurance in the Czech Republic*, <http://www.vzp.cz/en/public-health-insurance.php>, accessed 22 February 2015

Wagstaff A et al (1999) Equity in the finance of health care: some further international comparisons, *Journal of Health Economics* 18(3): 263-90
<http://www.sciencedirect.com/science/article/pii/S0167629698000447>

WHO (2000) *World Health Report 2000 – Health systems: improving performance*. Geneva: World Health Organization
<http://www.who.int/whr/2000/en/>

WHO (2010) *The World Health Report 2010 – Health systems financing: the path to universal coverage*, Geneva: World Health Organization
<http://www.who.int/whr/2010/en/>

WHO (2015) *Global health expenditure database*, <http://apps.who.int/nha/database/Select/Indicators/en>

Wildavsky A (1986) *Budgeting: a comparative theory of budgetary processes*, Little, Brown

World Bank (2014) *Analysis of the Function and Structure of the Ministry of Health of the Republic of Cyprus*, Washington DC: The World Bank

Xu K, D Evans, G Carrin, A Aguilar, P Musgrove and T Evans (2007) Protecting households from catastrophic health spending, *Health Affairs* 26(4):972-83
<http://content.healthaffairs.org/content/26/4/972.long>

Appendix

Stakeholder meetings held by WHO in Nicosia, 24-28 November 2014

Government	
Ministry of Health	Philippos Patsalis, Minister of Health
Core Reform Implementation Team	Christos Kaisis, Ministry of Health Olga Kalakouta, Ministry of Health Egli Constantinou, Ministry of Health Anastasia Anthousi, Ministry of Health Evagoras Tambouris, Ministry of Health Despo Olympiou, Ministry of Health Elena Gabriel, Ministry of Health Mary Avraamidou, Ministry of Health Andriana Achilleos, Ministry of Health Elias Mallis, Ministry of Finance
Health Insurance Organisation	Theodoulos Charalambides, Acting General Director Athos Tsinontides, Director Efi Kammitsi Andreas Papaconstantinou
Insurance Companies Control Service	Victoria Natar, Insurance Companies Auditor Nicolao Koulapis, ICCS Senior Officer and Assistant Superintendent of Insurance
Patient representatives	
Pancyprian Society of Patients' Associations	Marios Kouloumas Nicolas Philippou
Health service provider representatives	
Pancyprian Medical Association	Andreas Demetriou, President Marios Filippou, Vice President Alkis Papadouris, Secretary Evagoras Nicolaides George Potamitis
Oncology Centre of Bank of Cyprus	Alecos Stamatis, Chief Executive Nectaria Ioannidou, Management Accountant
Association of Pharmacists	Eleni Piera-Isseyek, President Pavlos Varelias, Secretary
Association of Private Hospitals	Theodoros Tjiovani Matthias Papapetrou Marcos Christodoulides Christophoros Georgiades Nicos Satrazamis Polys Georgiades
Association of Private Doctors	Marios Theodotou, President Christakis Fessas Marios Karaiskakis

Insurance representatives	
Private Insurers Association	Polys Michaelides, President Stephie Dracos, Director General Artemis Pantelidou Andreas Kritiotis
Universal Insurance Company	Pavlos Fotiades, Owner Andreas Kritiotis, Chief Executive Officer Michaela Tymviou, Accident & Health Administration Supervisor Meropi Karoulla
Other	
Cyprus Association of Actuaries	Demetris Demetriou, President Avraam Pekris, Secretary Christos Loucaides
Chamber of Commerce	Nakis Antoniou Andreas Matsis Costas Georgallis Emilios Michael
Association of Employers	Theodoros Tjiovannis
Cyprus International Institute of Management	Theodore Panayotou, Director