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Health system reform in the Emirate of Abu Dhabi, United Arab Emirates

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2.1 Abstract

The desire to achieve the best outcomes in the provision of healthcare has driven health system reforms in many countries across the globe, including the Emirate of Abu Dhabi, United Arab Emirates.

As a young state (the United Arab Emirates was founded as an independent state in 1971) with a diverse (with 78% expatriates) and young population (40.23% of the national Emirati population is under 15 years of age), the government of the Emirate of Abu Dhabi has embarked on a journey to reform their healthcare system. This reform focuses on the redesign, financing, regulation and provision of healthcare with the aim of delivering accessible, affordable and high quality health care.

We will describe and review the health system reform in Abu Dhabi to date: its background, history and characteristics. The review looks at whether the main components of the reform (mandatory health insurance; enhanced competition and a centralized regulatory system) have had the desired effects in terms of improving quality, enhancing access and ensuring affordability.

Looking towards the future for the health system in Abu Dhabi we conclude that it is too early to tell whether the reform programme is having the desired effects in terms of achieving its goals of quality, access and affordability.

2.2 Introduction

Since the beginning of the foundation of the United Arab Emirates (UAE) as an independent, sovereign state in 1971, the late founder and President of the UAE, His Highness Sheikh Zayed bin Sultan Al Nahyan, consistently expressed his vision of access to high quality health-care for the entire community. Over the past four decades, realizing this vision has been one of the key drivers of reform in the provision of healthcare.

The United Arab Emirates (UAE) is a Federal union of 7 distinct State-Emirates. The Emirate of Abu Dhabi acts as the political capital for the Federation and, together with Dubai, the two Emirates account for more than two thirds of non-oil Gross Domestic Products (GDP) of the UAE[1].

The Emirate of Abu Dhabi is rich in national resources and over 2.2 million of barrels of oil are produced annually in the Emirate of Abu Dhabi, of which over 90% is exported and half of the GDP of the Emirate of Abu Dhabi relates to oil[1]. One of the main objectives of the government of Abu Dhabi is to reduce its reliance on the oil exports by promoting diversification and targeting growth areas such as tourism, healthcare, telecommunications and aviation[2]. Abu Dhabi is the second largest federal state, population wise, within the United Arab Emirates, with an estimated total population of around 2.4 million in 2011[3]. The population is multi-cultural, diverse and young: 22% of the population is Emirati, of whom two thirds are under the age of 30, 2.2% are over 65 years of age and only 8.8% of the labour force is Emirati. The majority of the expatriate population is male (70%) and almost half of expatriates are under the age of 30[1].

This vision for healthcare in the Emirate of Abu Dhabi has been outlined by the Executive Council's (the executive authority or council of Ministers) Policy Agenda 2007-2008 and Economic Vision 2030 for Abu Dhabi[2,4]. These strategies have played a key role in focusing on the strengthening of a secure and stable society and a dynamic open economy based on pillars such as education, healthcare, enhanced privatization, sustainable development within a transparent regulatory environment. The main aims are to establish a sustainable economic development in Abu Dhabi and ensuring a balanced social and regional economic development approach that brings benefits to all.
In this introduction, we will describe the main characteristics of the health system reform in the Emirate of Abu Dhabi since 2007, when a major reorganization took place of the health system.

Since 2007, healthcare regulation in the Emirate of Abu Dhabi has been the responsibility of one central, statutory agency, the Health Authority – Abu Dhabi (HAAD). HAAD reports

directly to the Executive Council (the executive authority of the Emirate of Abu Dhabi) and sets regulatory requirements for healthcare providers, professionals and payers (insurance companies), operates a mandatory licensing system, monitors compliance with requirements and takes action to enforce compliance. In addition, HAAD plays a central role in health promotion campaigns and public health programs and strategic planning[5]. Since its establishment HAAD has set out to the achievement of affordable, quality healthcare that is accessible to all[6].

Note: The term health system reform is used in this article rather than healthcare reform since the definition of health systems is broader and encompasses the resources, actors and institutions related to the financing, regulation and provision of all activities whose primary purpose is to promote, restore or maintain health[7].

The population in the Emirate of Abu Dhabi has a number of interesting characteristics. The birth and death rates have declined rapidly over the last two decades. However, there is a marked difference between the death rates of the national and expatriate populations: the death rate for the Emirati (national) population was 2.2 per 1,000 in 2011, compared to 3.8 in 1985 for the nationals. In comparison, the death rate for the expatriate population was 1.0 in 2011 and 1.8 in 1985[3]. At the same time the birth rate amongst nationals has decreased from 46.9 per 1,000 in 1985 to 33.7 in 2011. During the same period, the birth rate amongst the expatriate community decreased from 29.1 in 1985 to 8.7 in 2011. The high rates of male expatriates (77% of all expatriates are male) and a young expatriate population (99.4% of the expatriate population is below the age of 65) are the most likely causes for these differences[3].

Across the United Arab Emirates the infant mortality rate has dropped significantly from 15 to 7 per 1,000 births between 1990 and 2009[3]. In 2010, life expectancy at birth for Abu Dhabi Emirate was 74.9 years for males and 77.0 years for females[1]. Across all age groups, nationals accounted for 34% of all deaths. Nationals accounted for 59% of all the deaths above the age of 65. However, of all deaths of young adults (20 – 39 years) 14.4% were nationals[3]. The leading causes of death are diseases of the circulatory system, cancer and deaths due to road traffic injuries.

The Emirate has relative high rates of chronic diseases related to life style including obesity, diabetes and cardiovascular diseases[5]. Over the last three decades the prevalence of diabetes has increased fivefold from around 5% to almost 25% of the national Emirati population in Abu Dhabi[8]. According to preliminary analysis by the Health Authority Abu Dhabi, 21% of Emirati nationals are diabetics compared to 18% of expatriates[3]. In addition, cardiovascular diseases accounted for over a quarter of deaths in 2011, with obesity rates high for both the

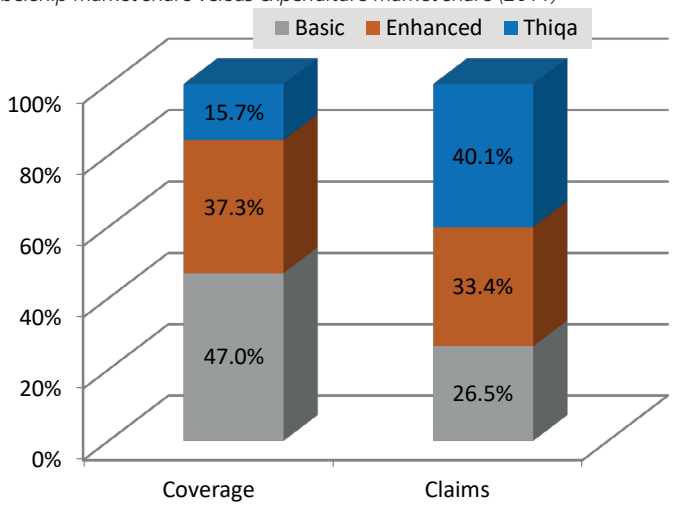
national as well as the expatriate population (national: 33% for males and 38% for females; expatriates: 17% for males and 32% for females)[3]. One recent study of a sample of over 500 Emirati women reported a prevalence of obesity (defined by body mass index > or = 30) of 35% with many women (28%) reporting having a chronic disease (including obesity, diabetes, cardiovascular disease, respiratory disease)[9].

By Emirati law employers are required to provide for health insurance coverage for its employees and their families. Residence status is generally contingent on being employed. Hence, there are very few retired or unemployed expatriates[10]. There are three insurance schemes in operation in the Emirate of Abu Dhabi: Thiqa cover, which is available only for Emirati nationals; Basic cover, mainly for unskilled labourers and lower paid employees and Enhanced cover, mainly for higher skilled expatriate workers. There are over 400,000 people insured through Thiqa; over 1.3 million insured with the Basic product and over 1 million policy holders with the Enhanced cover[3].

The Thiqa and Basic schemes are provided by the National Health Insurance Company, Daman, a Abu Dhabi government owned entity that has a strategic partnership with Munich Re, a large German health insurance company. The Enhanced scheme is provided by 35 licensed insurers, including Daman. Individual members of the different schemes have to make co-payments, which differs per insurance company and relates mainly to payments for pharmaceutics, optical and dental services.

As Figure 1 below shows, there are noticeable differences in the utilization of healthcare between different groups as reflected in the percentage of claims per health scheme: 15.7% of insured individuals hold a Thiqa card, compared to 47% who have Basic insurance. However, as a percentage of the amount claimed, Thiqa card holders represent 40.1% of the market, whereas Basic insurance card holders represent 26.5%. The higher utilization rate of Thiqa members can be explained by the differences between the expatriate and national, Emirati population. The expatriate population tends to be younger, predominantly male and more transient. In contrast, a higher percentage of the national population has is over the age of 65 and there is a higher birth rate amongst the national population. Lifestyle characteristics may also play an important role with a high prevalence of diabetes amongst national. A recent study found that in one of the largest hospitals in Abu Dhabi, nationals accounted for 72.2% of all diabetes related inpatient encounters[8]. Finally, the lower number claims per member per year for workers on the basic insurance (average of 3 claims per year, as compared to 14 claims per year for Thiqa members) may also be due to the fact that the level of co-payment is higher for the Basic insurance product[3].

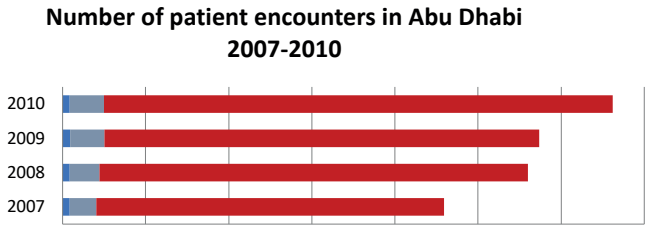
Figure 1 Membership market share versus expenditure market share (2011)



There has been a noticeable growth in the provision of healthcare services in the United Arab Emirates over the last decade. According to recent statistics, in 2010 the total number of patient encounters had grown by 17.5% compared to 2009, whereas the growth rate in 2009 was 2.5% and in 2008 22%[3]. It is difficult to explain the dip in the growth rate between 2008 and 2009, however at the same time the Abu Dhabi economy contracted by 24%[1], mainly due to the global economic recession.

As Figure 2 below illustrates, the absolute growth for Outpatient Care between 2007 and 2010 was 46.4% (12.2 million encounters in 2010, compared to 8.4 million in 2007). During the same period the absolute growth for Emergency Care was 28.2% and for Inpatient Care only 0.4%.

Figure 2 Number of patient encounters in Abu Dhabi, 2007 - 2010



	2007	2008	2009	2010
Inpatient discharges	173,331	174,587	177,428	174,099
Emergency	637,630	712,598	829,533	817,624
Outpatient	8,367,065	10,314,318	10,461,119	12,246,071

A further analysis of the encounters over the same time period[1,3,5,6] indicates that, when expressed in relative terms, the growth has been less evident (see also Table 1 below). Whilst there has been a particular growth in outpatient encounters (an increase of 26.1% in just 4 years), the relative growth in ED encounters was small and there was even a decrease in the discharge rates for inpatients over those 4 years.

Table 1 Number of patient encounters in Abu Dhabi per 1,000 population, 2007-2010

Number of patient episodes in Abu Dhabi, per 1,000 population					
Year	2007	2008	2009	2010	Difference 2007-10
Discharge rate per 1,000 population	102.21	95.58	92.61	88.48	-13.43%
ED encounters per 1,000 population	376.01	390.11	432.97	415.53	10.51%
Outpatient encounters per 1,000 population	4,934.03	5,646.50	5,460.15	6,223.68	26.14%

Healthcare in Abu Dhabi is provided by over 22,000 licensed healthcare professionals who work in over 1,200 facilities, ranging from pharmacies, clinics, and rehabilitation centres to acute hospitals. In total there are almost 5,000 physicians, almost 1,000 dentists, over 8,000 nurses and 5,000 allied health professionals[3].

In terms of provision of healthcare, the establishment of a new state-owned company in charge of the management and contracting of healthcare services was established by law in 2007, with governmental support. This company, SEHA (Arabic for Health), provides inpatient and outpatient services and over 66% of all hospital beds are provided by or on behalf of SEHA (see Table 2 below). Prior to being established as a Government supported, private company, the facilities in the SEHA group were managed by the General Authority for Health Services, GAHS. SEHA manages its own existing facilities and has contracted the management of a number of large hospitals with international healthcare groups, such as John Hopkins Medicine and the Cleveland Clinic. The overall market share for SEHA is 56% for inpatients and 31% for outpatients. The remainder is provided by over 1,000 private healthcare facilities.

Table 2 Provision of health services in the Emirate of Abu Dhabi

Provision of health services in the Emirate of Abu Dhabi: SEHA and non-SEHA						
	2009			2010		
	SEHA	Non-SEHA	Total	SEHA	Non-SEHA	Total
No. healthcare facilities	118 (11%)	959 (89%)	1,077	145 (12%)	1,066 (88%)	1,211
No. encounters	4,428,075 (39%)	7,042,013 (61%)	11,470,089	4,654,264 (34%)	8,890,793 (66%)	13,545,057
No. inpatient beds	2,439 (67%)	1,182 (33%)	3,621	2,369 (66%)	1,210 (34%)	3,579

In the next section we will review the health system reform program in Abu Dhabi.

2.3 Discussion: Health System Reform in the Emirate of Abu Dhabi

The provision of high quality, affordable and sustainable healthcare that citizens can freely access remains a dream for many politicians, providers, payers, policy and decision makers. In many countries, the gap between dream and reality has led stakeholders such as patient lobby groups, political parties, researchers, providers, insurers and policy makers to advocate for structural and lasting reform to address the multitude of persisting quality problems and financial concerns.

In the previous section we described some of the main characteristics of the health system in Abu Dhabi, in terms of population, payer and provider. We will now review the current situation in Abu Dhabi by looking at whether the different elements of the reform have had the desired effect in terms of achieving the projected outcomes: improving quality, expanding access and ensuring affordability[6,11]. Before we look at the three main elements of the reform in Abu Dhabi (mandatory health insurance, enhanced competition and a centralized regulatory system) we will briefly describe the international research into health system reform.

Even though international organizations such as the World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD) have carried out many comparative reviews, the evidence of the impact of health system reforms remains inconclusive as healthcare costs continue to grow, disparities remain and health outcomes do not improve significantly. The WHO, following an extensive review of the available evidence[12], concluded that here is little evidence concerning the effectiveness of many reform policies. On behalf of the OECD Docteur and Oxley[13] conducted a similar review six years later and drew as similar conclusion [page 8]: 'choices about further reform are hampered by the insufficiency of information about the impact of the (numerous) reforms'.

More recently the Australian Government mandated a Commission to review the health system and produce recommendations for reform. The Commission found that health systems are notoriously resistant to reform in a large part because of the competing objectives of access, quality and affordability[14]. Inherent to the process of reforming healthcare is that the goals cannot always be aligned and often compete with each other. For example, the objective of delivering of high quality healthcare can be expensive and therefore clash with the objective of delivering affordable healthcare.

More evidence has been found at an individual country level. In relation to England for example, the King's Fund reviewed the reform period under Labour government and concluded that considerable progress had been made. Particularly improvements had been made in reducing waiting times for treatment, reductions in rates of health care associated infections, improvements in areas of clinical priority such as cancer and cardiac care and progress in reducing rates of cigarette smoking[15].

Pollitt[16] concluded that one of the biggest assumptions is that there has been some well thought through and well-designed plan behind reform. However, reform is often the result of many compromises and systematic evidence is relatively sparse. The challenge is whether and how to attribute indicators of population health or specific outcomes to health service interventions.

Although Abu Dhabi's health system reform is relatively young, after 5-6 years it is time to take stock and briefly analysing whether the three main characteristics of the reform have resulted in the desired outcomes.

Health insurance

As described earlier, the introduction of the mandatory health insurance system for all workers is a key characteristic of the reform program. All employers are obliged to enrol and fund insurance for all eligible expatriate employees. The insurance requirements and the pricing are set by the regulatory authority.

In terms of access to health care, according to the regulatory authority, over 95% of the population is enrolled in one of three health insurance plans. However, this high level of enrolment has not led to an even distribution in terms of the utilization of healthcare. As noted in the Introduction, members of the Basic insurance access healthcare less frequently and have a higher level of co-payment. This could be an indication for underutilization and lower access for this particular group. However, it has to be considered that the age and sex distribution of this group is different. Furthermore, expats often leave the country when they become severely ill, which would lead to lower utilization numbers when compared to

the national population. Therefore the lower utilization in the Basic plan will require more attention and further analysis in the future. In addition, Emirati patients continue to use healthcare services outside of the United Arab Emirates. A Medical Board approved almost 3,000 patients to avail of treatment abroad in 2010, an increase of 13% when compared to 2009[17].

Limited information is available regarding the affordability of healthcare. At a macro level, the most recent figures indicate that across the United Arab Emirates, 2.7% of GDP was spent on healthcare in 2009[18]. The two largest insurance products, the Basic product and Thiqa scheme, are underwritten by the Abu Dhabi Government and limited data is available in relation to the overall costs to the Government. However, what is noticeable is a substantial increase in the number of payer submissions (claims) and the costs per insurance plan. Table 3 indicates the growth in payer submissions (claims), per insurance product, the overall growth is 42.1%, with the biggest growth (87.0%) in the Daman Basic product[3,5,6].

Table 3 Health insurance in Abu Dhabi (2009-2011)

Payer claims and market share per insurance product, 2009-2011							
	2009		2010		2011		Growth
	Claims	Market share	Claims	Market share	Claims	Market share	2009-2011
Basic product (Daman)	2,132,354	20.1%	2,932,545	22.5%	3,987,477	26.5%	87.0%
Thiqa product (Daman)	4,475,578	42.3%	5,920,296	45.4%	6,029,795	40.1%	34.7%
Enhanced product	3,981,416	37.6%	4,200,514	32.2%	5,025,707	33.4%	26.2%
Total	**10,589,348**	**100.0%**	**13,053,355**	**100.0%**	**15,042,979**	**100.0%**	**42.1%**

At the same time, the average cost per claim is substantially lower for the Basic product, as shown in Table 4 below.

Table 4 Cost of average health insurance claim (2011)

Cost of average insurance claim, 2011 (in AED)		
	Inpatient	Outpatients
Basic product (Daman)	8,792	152
Thiqa product (Daman)	12,727	362
Enhanced product	9,344	343

Recent research of the health insurance in Abu Dhabi[19] has indicated that being covered by health insurance actually lowers per capita household's health care spending to the extent that those benefiting from the introduction of mandatory health insurance experience a statistically significant increase in household's disposable income. In comparison, in other Emirates, the original situation pre-2007 has remained with many low skill-low paid expatriates who are either not insured at all or who are faced with out-of-pocket payments.

It is difficult to ascertain what impact the introduction of a mandatory health insurance system has made on the quality of healthcare provision. The regulatory authority has also begun to implement a comprehensive pay for quality program. The first steps of establishing an eClaims system, introducing a competitive market of insurance companies for the Enhanced product and a standardized new basic price list have been taken already. However, further evidence is required to review the effects of health insurance regulation on quality.

Enhanced Competition

Another important feature of the health system in Abu Dhabi has been enhanced competition through an increased privatization and the commissioning of large healthcare service contract to internationally recognised and well-established institutions such as the Cleveland Clinic and John Hopkins Hospital. With the establishment of the Abu Dhabi Health Services Company (SEHA) in early 2007, a mechanism was created to commission the delivery of critical care to external companies and with this create a quasi-market. SEHA manages the performance of contracted providers by monitoring a set of agreed key performance indicators. This model includes financial penalties when the performance falls below the expected targets.

As described above, the private sector has expanded significantly and between 2009 and 2010 the total number of healthcare facilities grew by 12.4%, with almost 90% of these facilities run by private companies[5]. It remains to be seen whether these changes have contributed to an improvement in the quality of care provided as limited information is available on the quality of healthcare services.

The increase in number of facilities does not necessarily mean an improvement in terms of access to care. As we have noted above, the utilization rates differ starkly between different population groups. Also, worth noting is the increase in Emirati nationals travelling abroad for treatment, despite the increase in the number and range of healthcare facilities. In 2012 the regulatory authority for healthcare, HAAD, launched a Capacity Master plan to ensure improved planning to address quality and access issues and stricter regulate the supply of healthcare services, in particular in areas where there appears to be oversupply (for example general/family medicine and dentistry) and undersupply (for example intensive care, psychiatry and emergency medicine)[3].

In terms of affordability of care, to date no concrete evidence exists to suggest that the affordability of care has changed since the introduction of competition between providers.

Centralized regulatory system

The final characteristic of the health system reform in Abu Dhabi is the establishment of a centralized regulatory system, with one agency (Health Authority Abu Dhabi) responsible for the regulation of healthcare professionals, healthcare providers and healthcare insurance companies.

With the establishment of a regulatory authority, the government of Abu Dhabi created a mechanism to control costs and, indirectly, affordability, through a reimbursement mechanism. The regulatory authority sets the level of reimbursement for all the different activities performed by healthcare providers. Since concrete evidence is not readily available, it still unclear what the effects have been on the affordability of care.

The introduction of the mandatory insurance system has led to an improved situation where virtually all residents are covered by insurance and therefore can access the basic healthcare that they require. The enforcement by the regulatory has indirectly contributed to improving access to care by all residents as heavy penalties are imposed on non-compliant employers [5]. Again the exact impact that this part of the reform has had remains unclear as further evidence is required.

In terms of quality, the regulatory authority is currently developing a quality rating system for all hospitals in Abu Dhabi, to provide relevant and trustworthy information about the quality of care. The Health Authority Abu Dhabi aims to create transparency and accountability in the healthcare industry by providing information about the quality of care to all stakeholders. As a first step the Health Authority Abu Dhabi introduced a rating system for pharmaceutical Facilities in 2011, with a view of expanding this to all healthcare facilities in 2012.

2.4 Conclusion: Reform in Abu Dhabi - what's next?

Although in many countries stakeholders often hold different views on the most effective mechanism to implement reform, there appears to be a consensus on what the overall aims should be: affordable, high quality healthcare that citizens can freely access. The goals set by the Abu Dhabi government reflect the priorities of health system reform in other countries: ensure the provision of high quality, affordable and sustainable healthcare that can be accessed by the community.

To date research on the effects of the healthcare reform on the access, affordability and quality of healthcare in Abu Dhabi has been scarce.

Despite this lack of evidence, a number of tentative conclusions can be drawn. In terms of the first goal: improving access to healthcare, great strides have been made as over 95% of the population (expatriates and nationals) are now members of a healthcare insurance scheme. However, the utilisation rates differ strongly between policy holders. Policy holders in the lower income groups underutilise the healthcare services and this discrepancy raises questions in relation to the achievement of an equitable distribution according to health needs

Even though the WHO estimated that the UAE's expenditure on healthcare is relatively low (2.7% of GDP) compared to other countries, the Government of Abu Dhabi has made the sustainability of healthcare funding a key governmental priority[4]. However, no research has been conducted on the affordability of care from an individual insurance card holder and it remains to be seen what the impact of the health system reform has been as it is too early to tell whether they have had the desired effects on the affordability of care.

Finally, the regulatory authority has begun to measure the effects of the reform on the quality of healthcare have been measured in a number of different ways. For example, in 2010 the Health Authority Abu Dhabi contracted an external agency to conduct a comprehensive patient satisfaction survey. Over 34,000 people were interviewed and the study reported an overall satisfaction rating of 83% for outpatients and 86% for inpatients across all 37 facilities participating[5].

In conclusion, many challenges in terms of access, affordability and quality remain to be addressed in the Emirate of Abu Dhabi. The first steps have been taken under the leadership of the Health Authority Abu Dhabi but in order to effect sustainable, long-term change, the reform needs to continue in its efforts to ensure high quality, reliable excellence in healthcare. Creating transparency by publicly reporting on the performance and quality of healthcare is one of the major initiatives currently under way in Abu Dhabi. As part of their ongoing efforts to measure the impact of healthcare reform, the Health Authority Abu Dhabi has also established an ambitious research initiative to examine the relationship between regulatory approaches and compliance with regulatory requirements. Ayers and Braithwaite[20] originally developed a theoretical model of 'responsive regulation' asserting that regulatory interventions are more likely to succeed if they are responsive to the culture, context and conduct of the regulated organizations. The hypothesis behind this research study is that responsive regulatory interventions increase the likelihood of compliance with regulatory requirements, which in turn leads to better quality outcomes[21].

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