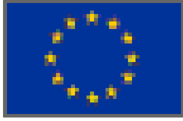
**Ministry of Health**



**- Health Sector Modernisation Programme -**

SYR/AIDCO/2001/0215
Funded by the European Union

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# National health accounts 2003 for Syria

# A graphical overview

Mahmoud Dashash, Roula Kaderi, Mohammad Hadi Fadda, Detlef Schwefel

Damascus, August 2006

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EPOS Health Consultants

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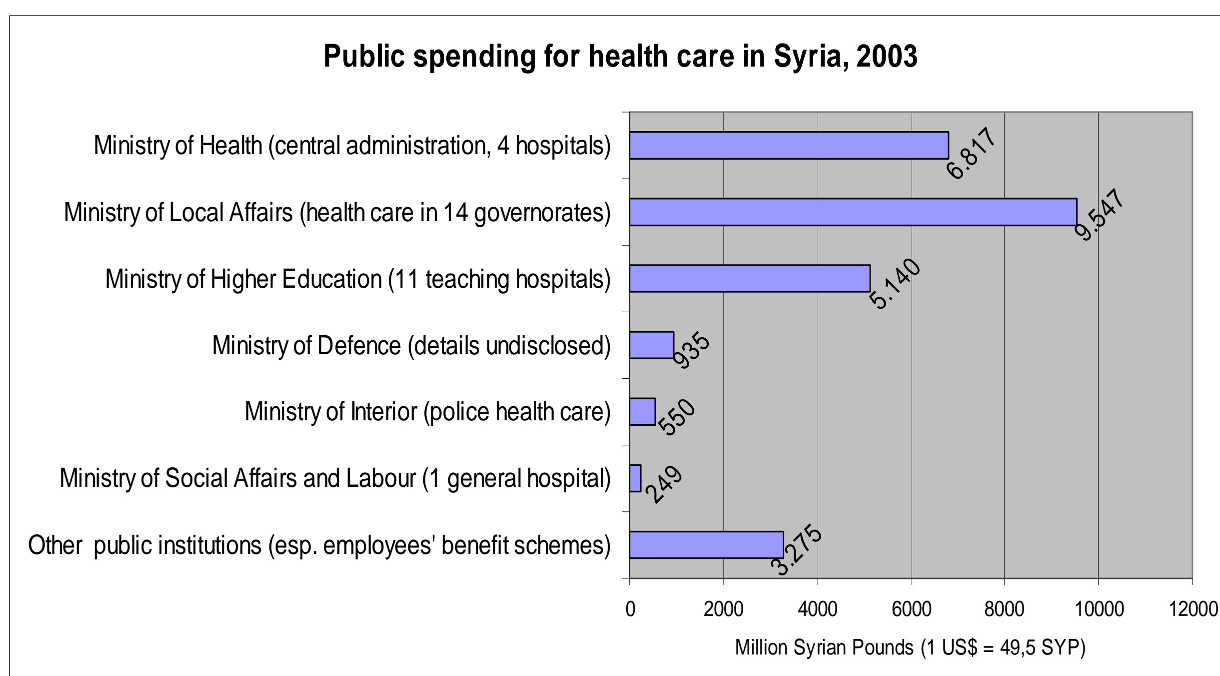
# National health accounts 2003 for Syria – A graphical overview

National health accounts try to explore the flow of funds for health from different sources – public and private. Transparency and accountability of the health system is aimed at. This should contribute to a modernisation of the health sector.

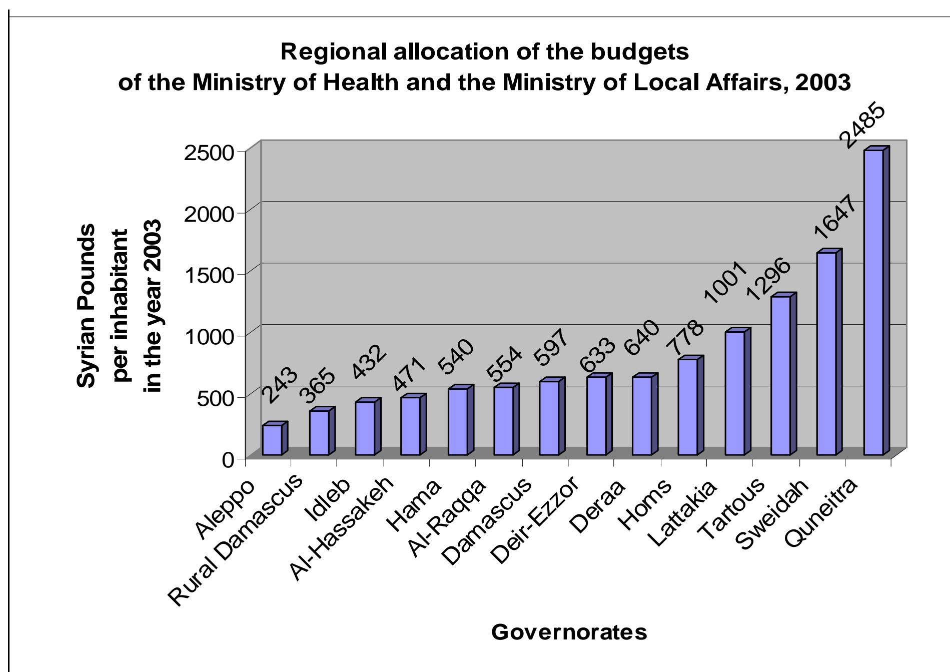
## 1 Government health expenditure

Public funds for health care are channelled from the government of the Syrian Arab Republic via its Ministry of Finance to various Ministries and public institutions. After corrections for missing values the following pattern of allocations for health care is estimated as an overview on government health care spending. Since data on health expenditure are not easily available for all public providers, we present in the following graph budget data as approximations to estimate public health care expenditure.



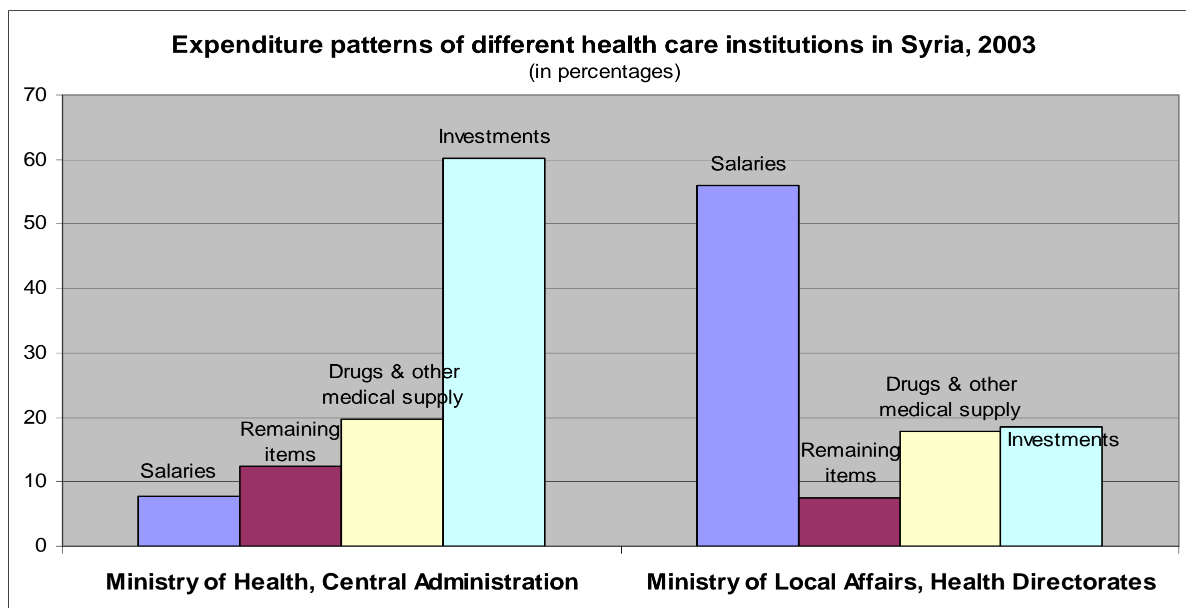

The Ministry of Health supervises the allocations of the Ministry of Local Affairs for the Health Directorates in 14 Governorates, which provide hospital care, primary health care, diseases prevention and health promotion. Apart from its regulatory functions and national health programmes, the Ministry of Health itself provided hospital care in 2003 through five hospitals, three in Damascus City, one in Aleppo and one in Quneitra for a wider catchment area than the geographical areas mentioned. The same applies to the 11 teaching hospitals of the Ministry of Higher Education – six in Damascus City, four in Aleppo and one in Lattakia – and to the health care provision of the other ministries. Many but not all ministries and public companies provide health benefits to their employees and families.

The regional allocations of the Ministry of Local Affairs, i.e. for prevention, primary health care and secondary hospital care per inhabitant in 2003 is seen in the following graph.



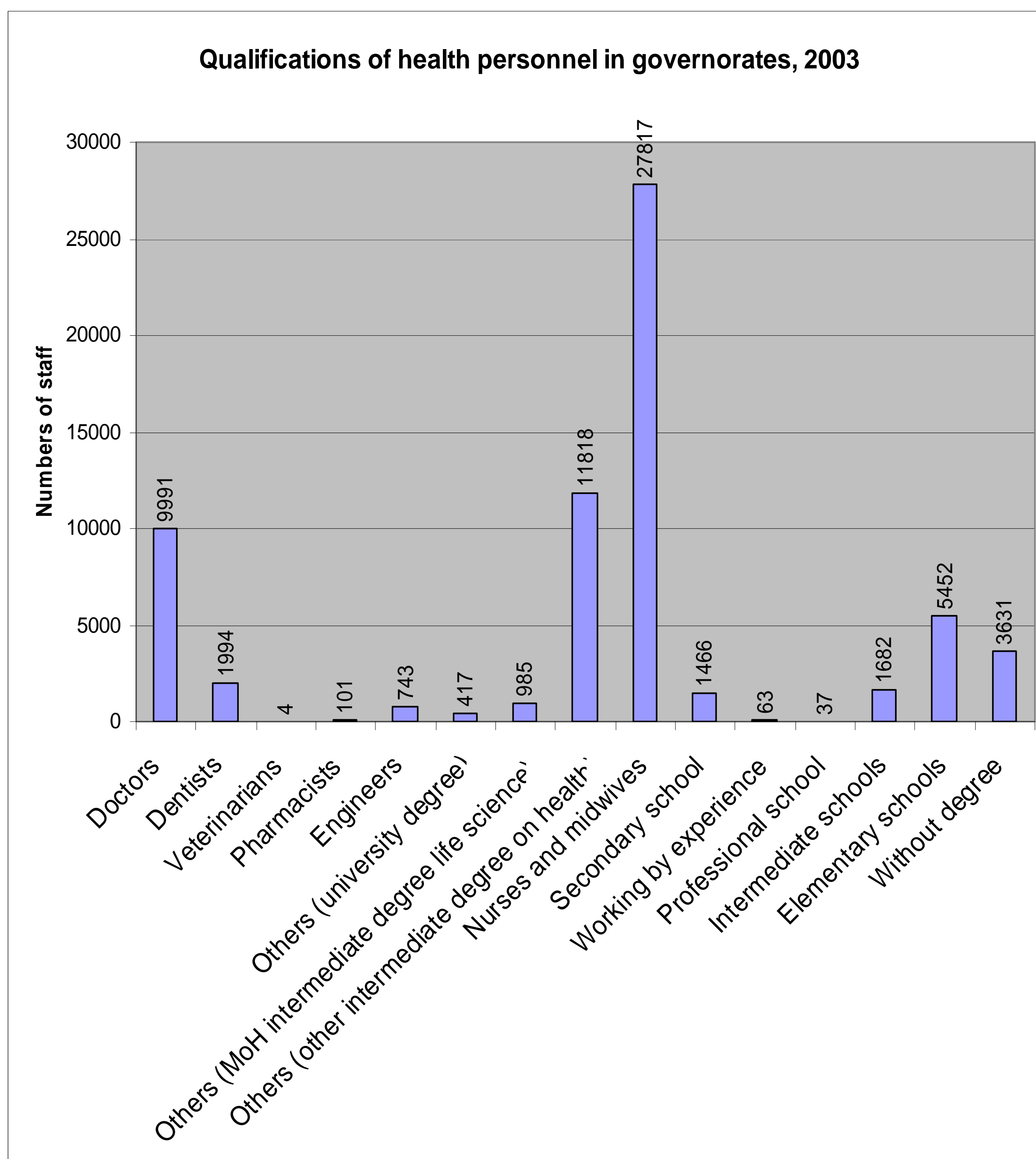

## 1.1 Main uses of government funds for health

Ministry of Health and Ministry of Local Affairs allocate their resources differently. One of the main functions of the Ministry of Health is regulation of health care and investments. Allocations for drugs and other medical supply are mainly for national programmes and for expensive items that exceed the budgets of the health directorates in the Governorates. In these directorates, salaries account for 69 % and drugs and medical supplies for 22 % of the current budgets.

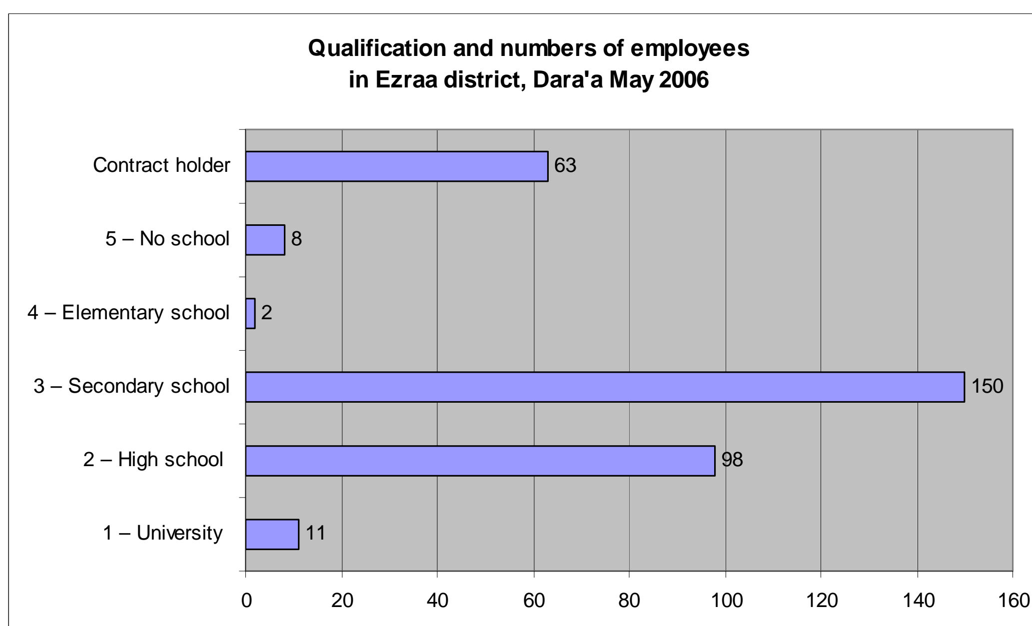


## 1.2 Government spending on human resources for health

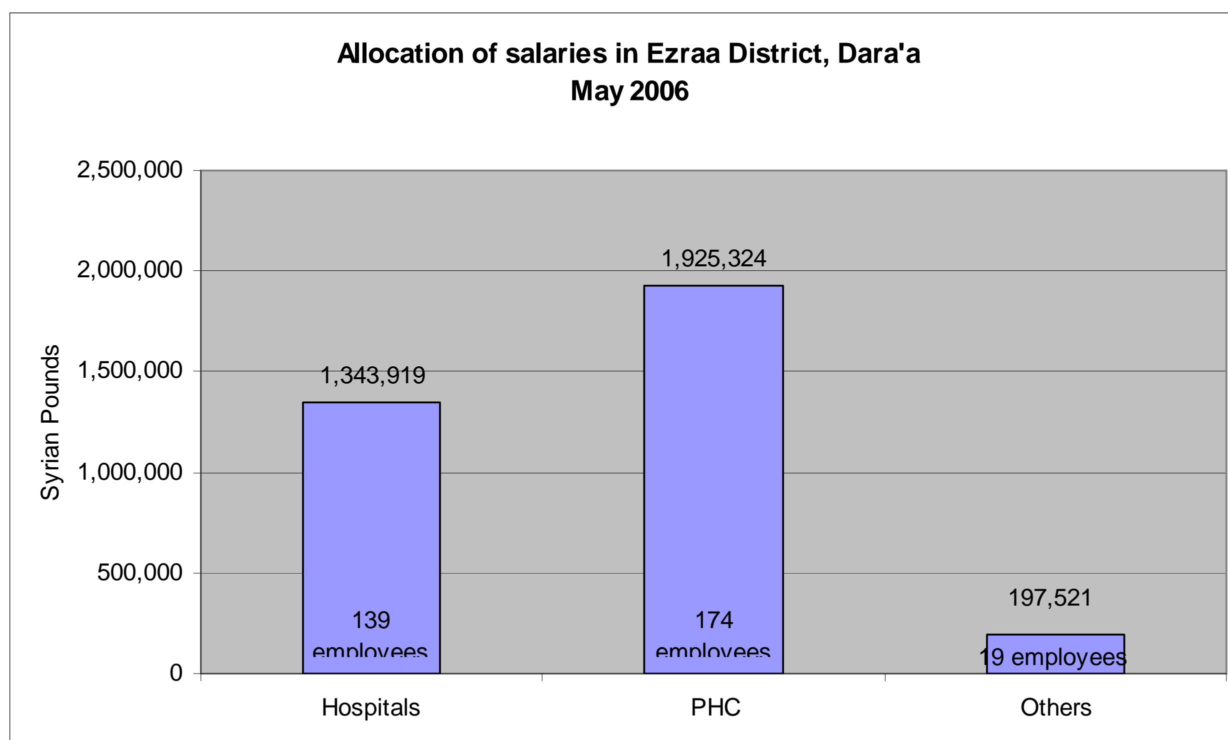
Close to 70 % of the budgets for health care within the regions are given for salaries. The following graph shows for all 66.201 employees the specific numbers according to qualifications.



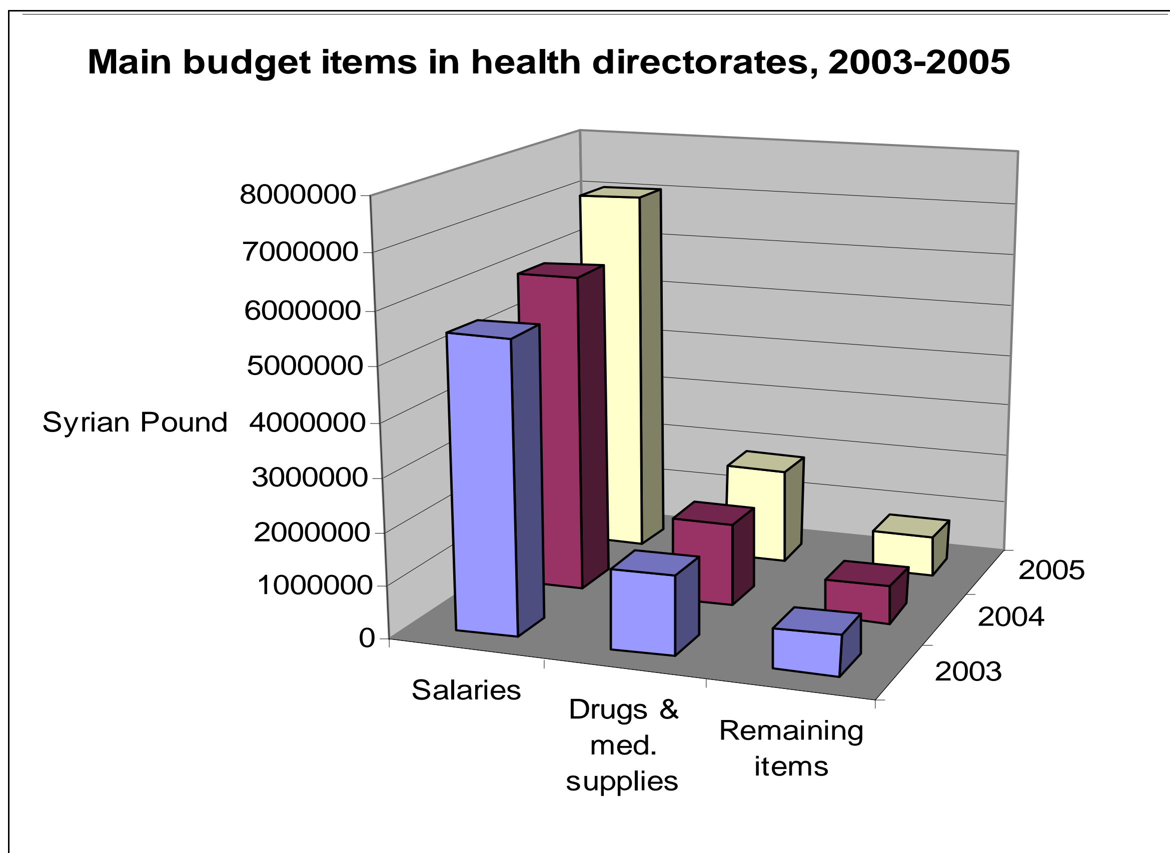

A computerized pay-roll information system in the Governorate of Dara'a reveals specifications on the salary allocation according to qualifications for the District of Ezraa, for May 2006. Routine information systems could support national health accounting in a sustainable way.



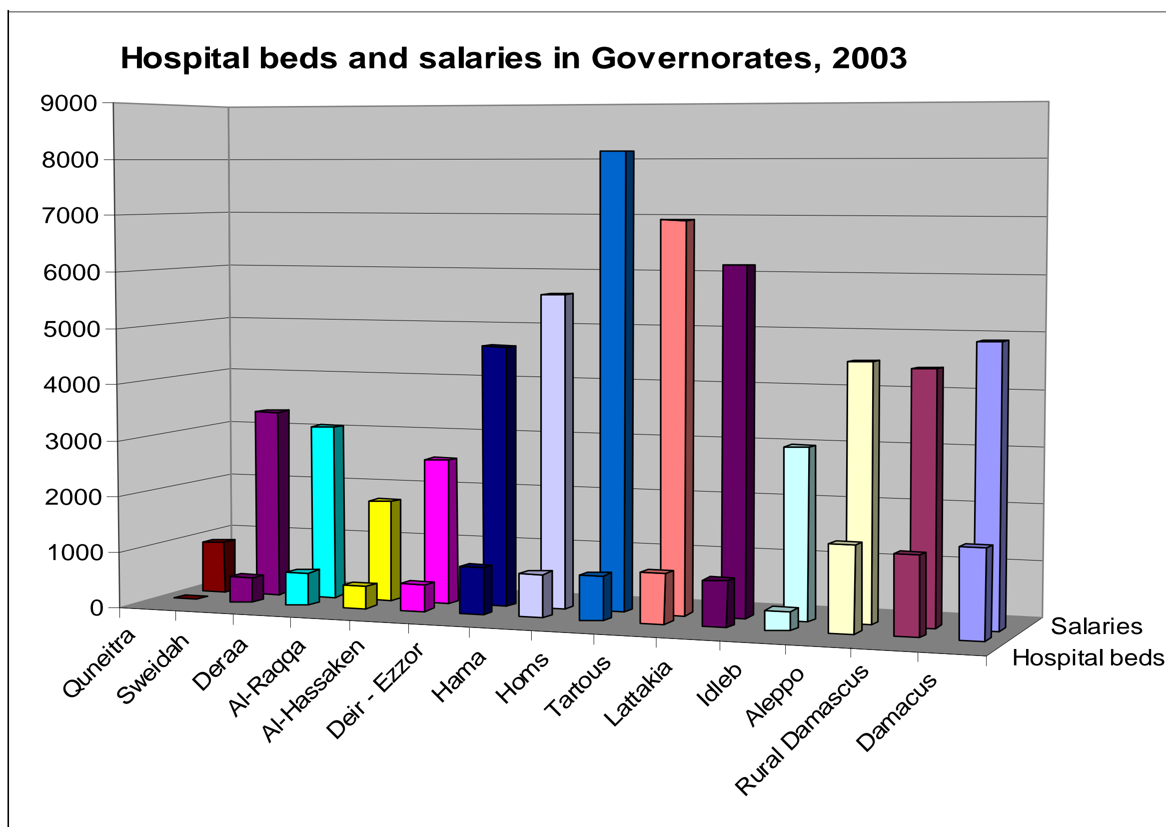

For the same district the following graph indicates the functional allocation of salaries for inpatient care and outpatient care, i.e. 41 % for hospitals and 59 % for primary health care.




In the next graph it can be seen quite clearly, that the proportion of salaries in relation to the total current budgets is steadily increasing and is at 73% for the year 2005. In international comparison, this is a very high share.




The question of rational allocation of scarce resources can be addressed, too, when comparing for example the number of beds in hospitals with the salaries in the different Governorates. The following figure hints at this relationship.



By no means there is a stable relationship of the amount of salaries with the number of beds in a Governorate. Many questions can be linked to this finding: Are there more preventive and health promotion related activities in some Governorates? What is the best way to keep the salary budgets small? Discussing and debating such findings and issues is a very important tool for the modernisation process in Syria. Health and management information systems are an essential input for this.

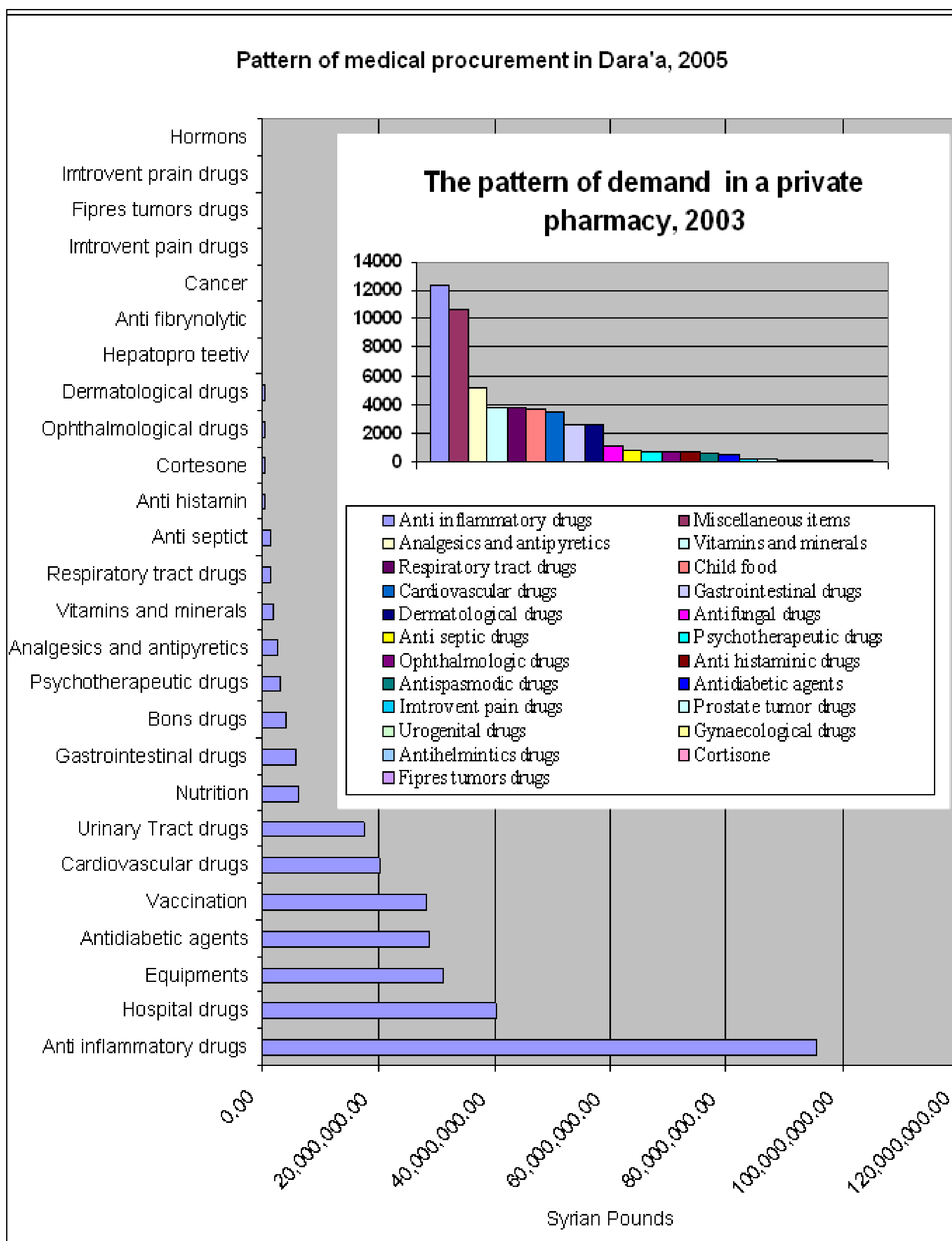
### 1.3 Government funds for drugs and medical supplies

The second most important budget category is drugs and other medical supply with a share of 22 % in the recurrent costs in the Governorates. In one of the Directorates that avails of a computerized procurement information system, some more details of the allocation of drugs and other medical supply could be revealed. The following table shows some specifications of this general allocation according to the districts in the Governorate of Dara'a in the year 2003. 63% is spend for drugs in hospitals and 37% for drugs in primary health care services.

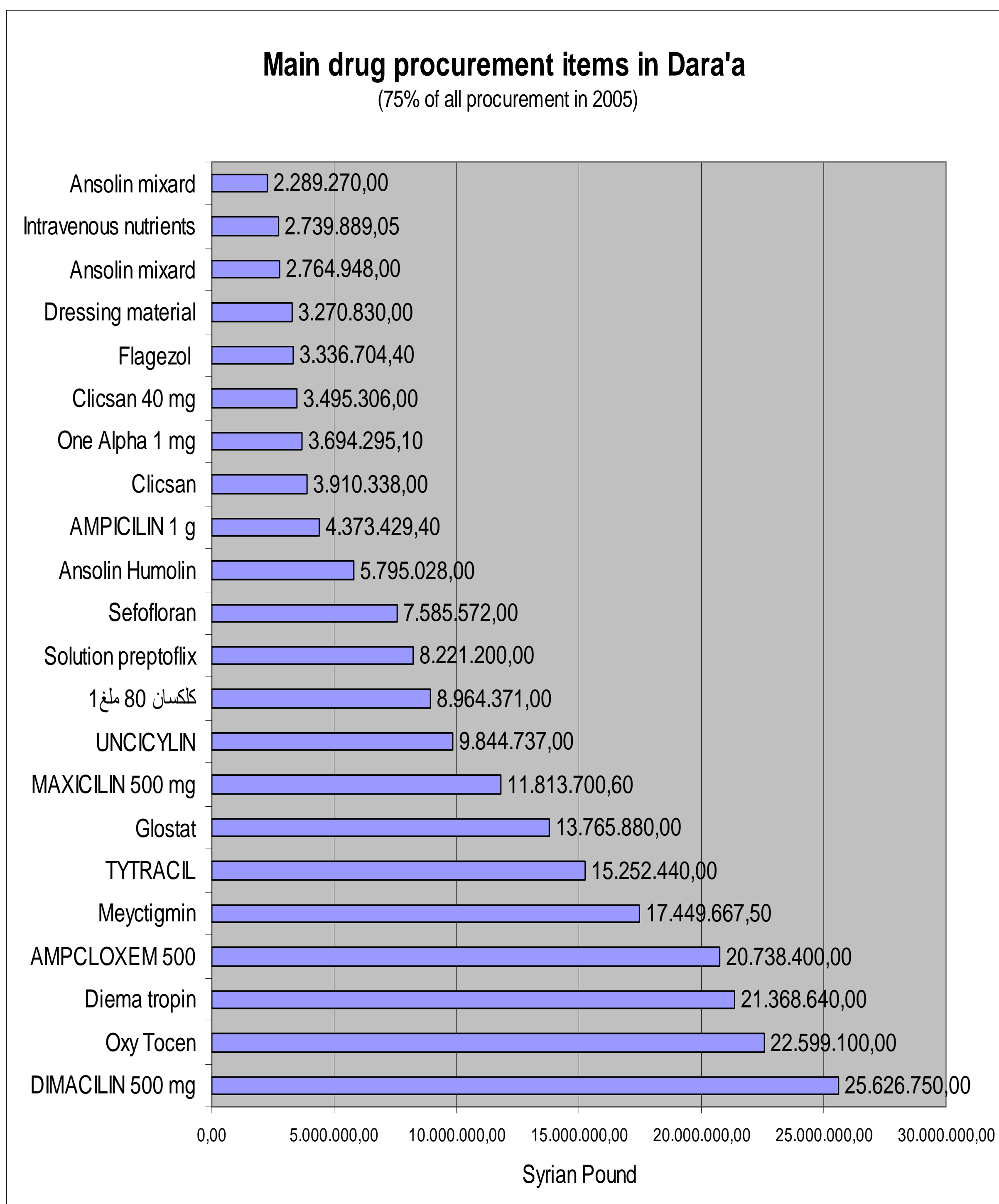
Drug expenditures in Dara'a according to types of facilities and districts
January to August 2003

| Percentages | 37 | 63 | 100 |
|---|---|---|---|
| Expenditure / Districts | Drug expenditure for primary health care % | Drug expenditure for hospitals % | Total drug expenditure by Health Directorate % |
| Dara'a | 5 | 59 | 39 |
| Bosra | 12 | 26 | 21 |
| Izra'a | 22 | 5 | 11 |
| Nawa'a | 18 | 9 | 13 |
| Al Shajakaa | 9 | 0 | 3 |
| Al Harak | 9 | 0 | 3 |
| Tafas | 10 | 0 | 4 |
| Sanamen | 16 | 0 | 6 |
| Totals (SP) | 101 | 99 | 100 |
| Preliminary and incomplete data | | | |

The following graph shows the ranking of therapeutic groups in the overall procurement of the health directorate of Dara'a during the year of 2005. An embedded graph shows the pattern of demand for drugs in a private pharmacy in Damascus in the year 2003, studied by Ra'afat Ali. Such kind of comparisons will be facilitated in the future by studies in applied health economics and using data from routine information systems.

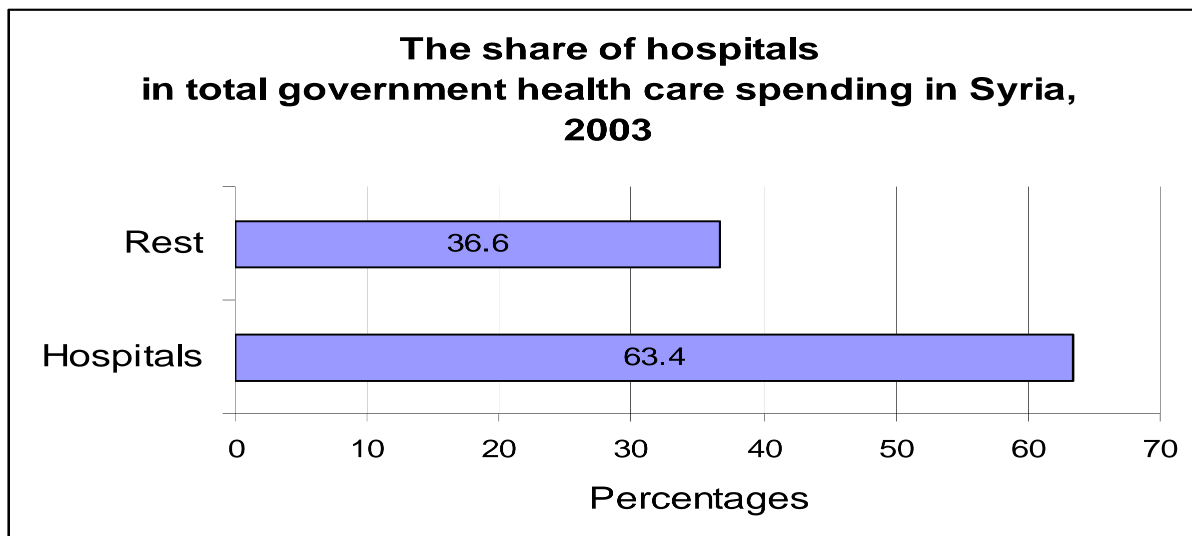



Twenty-two procurement items account for more than 75% of the procurement value. They should be taken into account, when trying to introduce tools and concepts of applied health economics and health financing.



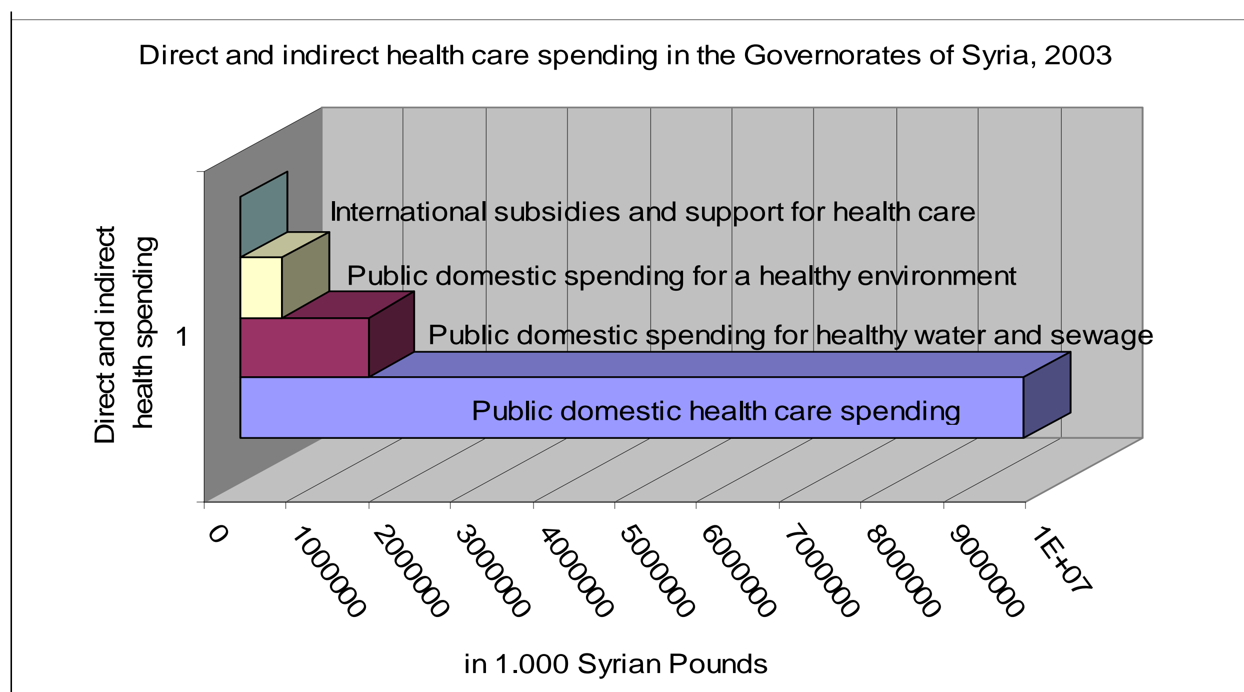

### 1.1.3 Government funds for hospitals

In relation to the entire health care provision of the Syrian government hospital care amounts to more than 60 % of the financing of health care, as indicated by another and independent source of information generated by Khaled Yassin.



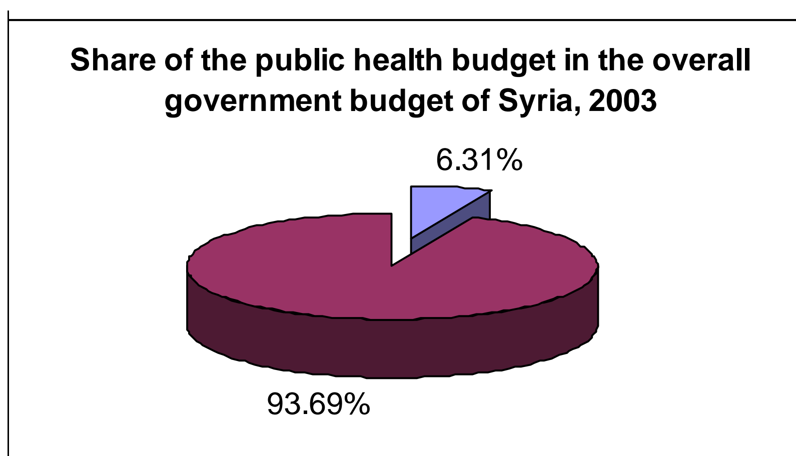

## 1.4 Indirect health expenditure of the government

With regard to the boundaries of the health sector and in view of trans-sectoral health impacts of programmes and policies especially in the area of safe and healthy drinking water, sanitary sewage systems and health minded environmental protection, we avail of estimates of the value of this indirect spending for health in Syria done by a former Syrian Minister of Finance, Khaled Al-Mahayni. It had the value of 2 billion Syrian Pounds in 2003, adding 20 % to the direct value of health care in the Governorates.



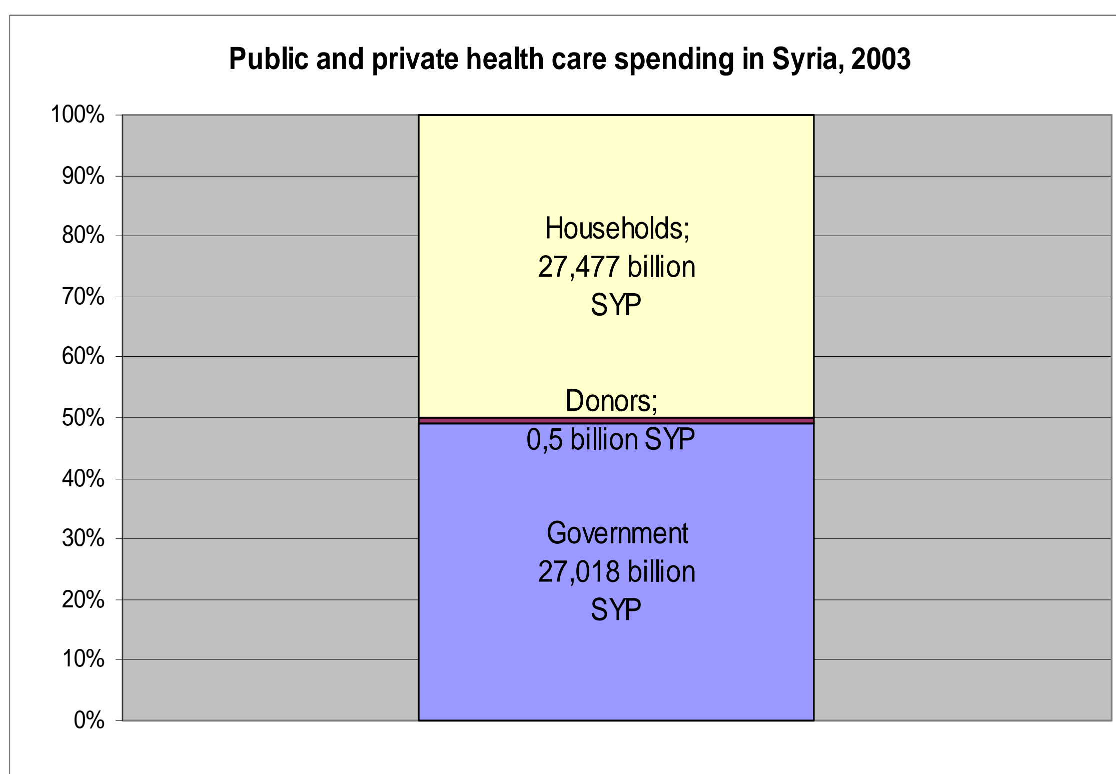
## 1.5 Total government spending for health care

Without taking the indirect expenditure for health care into consideration, Syria spends more than 6 % of the government budget for health and health care. Converted into US Dollars, 30 $ are spend for health per inhabitant by the Syrian government.




## 2. The balance of public and private expenditure for health

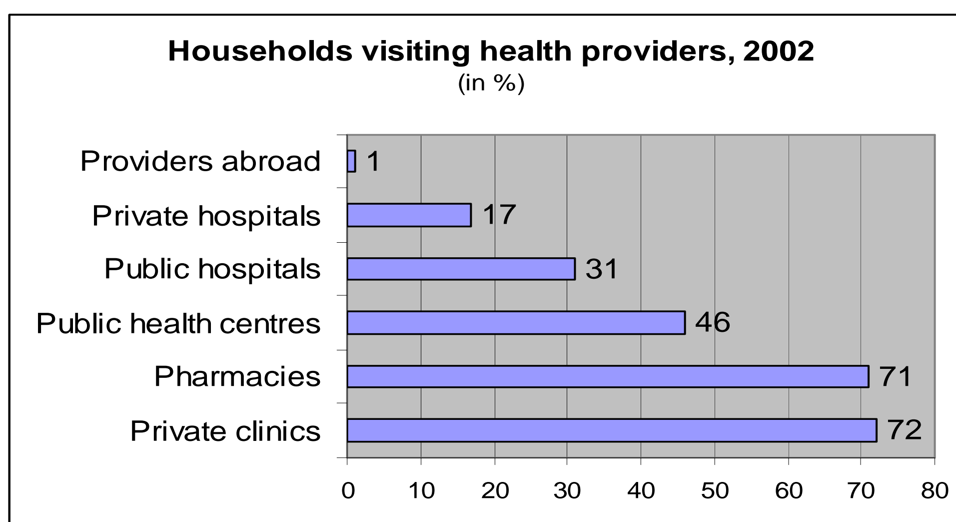
More or less the same amount is spent by private households for health and health care per year. The contributions of international donors were negligible in 2003. Government and private households were the main financiers of health care.



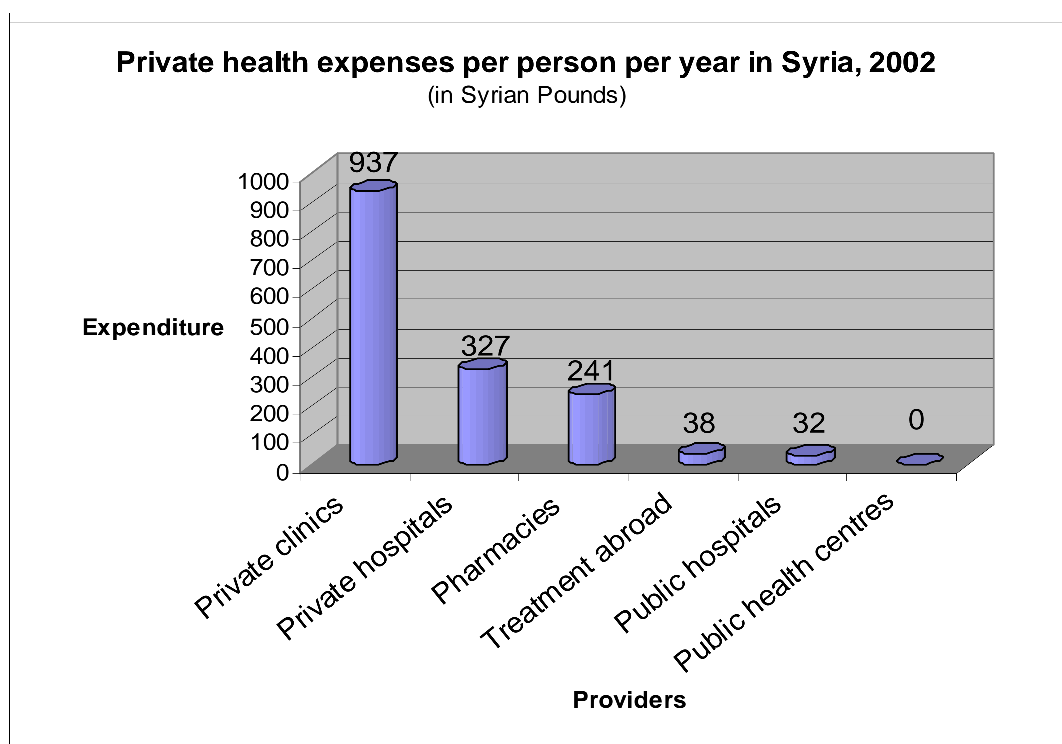
## 3. Private health expenditure

### 3.1 Results of a household health expenditure survey 2002

Households visited mainly private providers for outpatient care and more often private than public hospitals. Public health care centres are an important close-to-the client provider of the government.

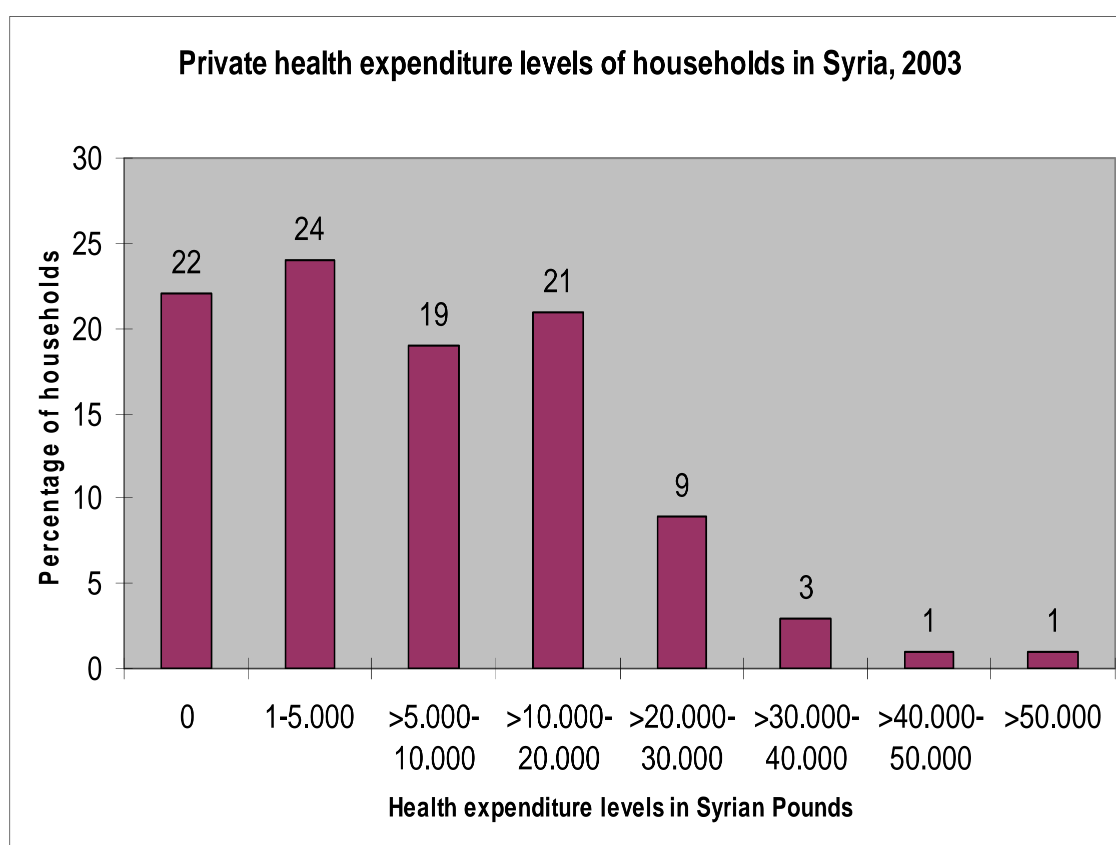



Households' health expenditure goes overwhelmingly to private providers, as can be depicted from the following graph. It has to be mentioned, that the expenses for drugs were probably included in outpatient and inpatient care; they refer only to drugs bought directly at pharmacies.



The total private health care spending amounts to 1.575 Syrian Pounds per year, i.e. 31 US$, per inhabitant.

Many households spend nothing or little for health care and a few households spend considerable amounts, as compared with average salaries.

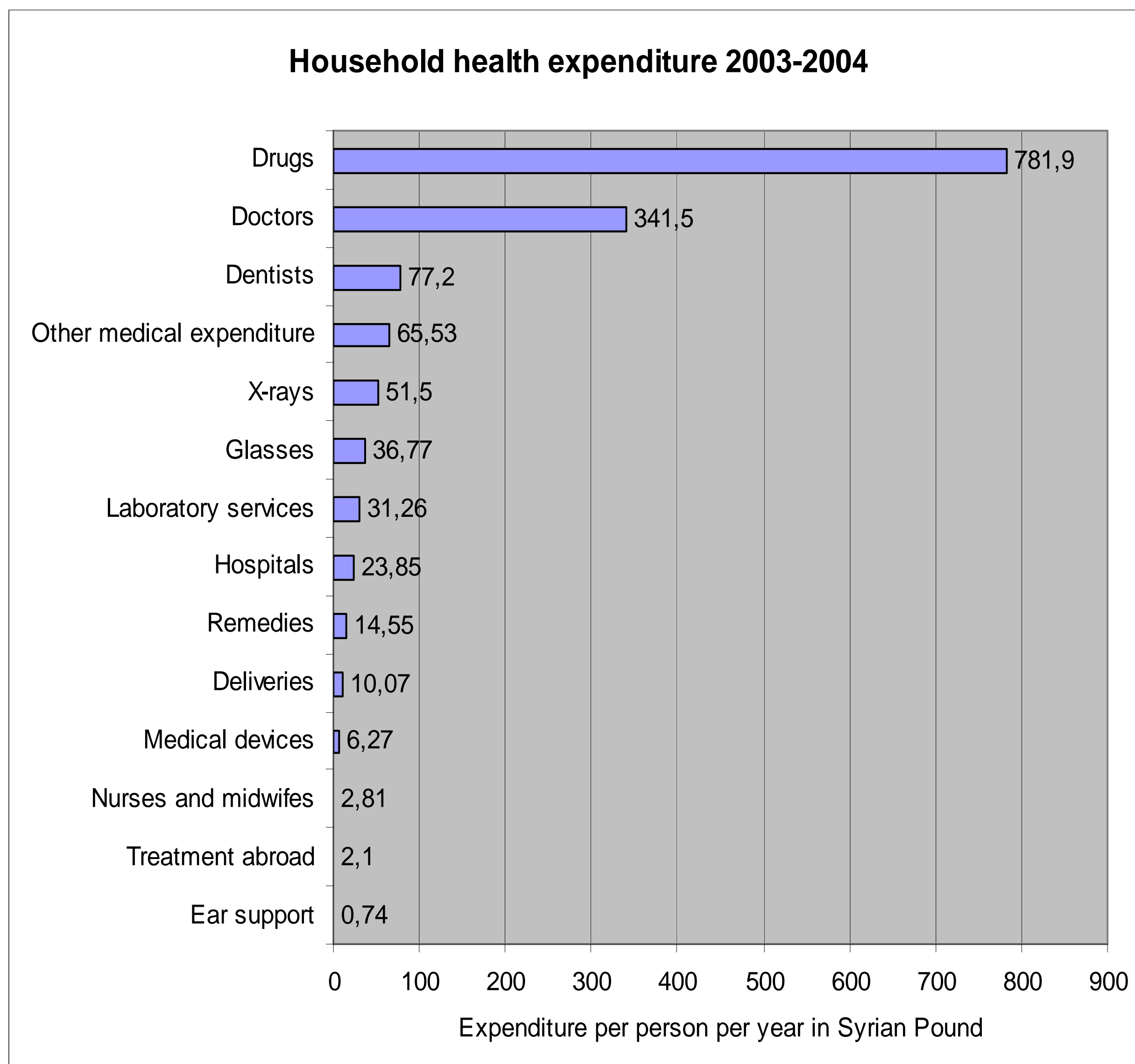



The high amount of private health care spending and its skewed distribution asks for converting the unregulated and sometimes irrational out-of-pocket spending in case of illness into a rationalized pre-payment shared by all for an independently organized good quality health care provision, i.e. for a mandatory and statutory public health insurance system.

## 3.2 Results of a household expenditure and income survey, 2003-2004

The Central Bureau of Statistics conducted a general household expenditure and income survey in the years 2003-2004. First published results were made available in 2006. The recently published data show the following pattern of household health expenditure.

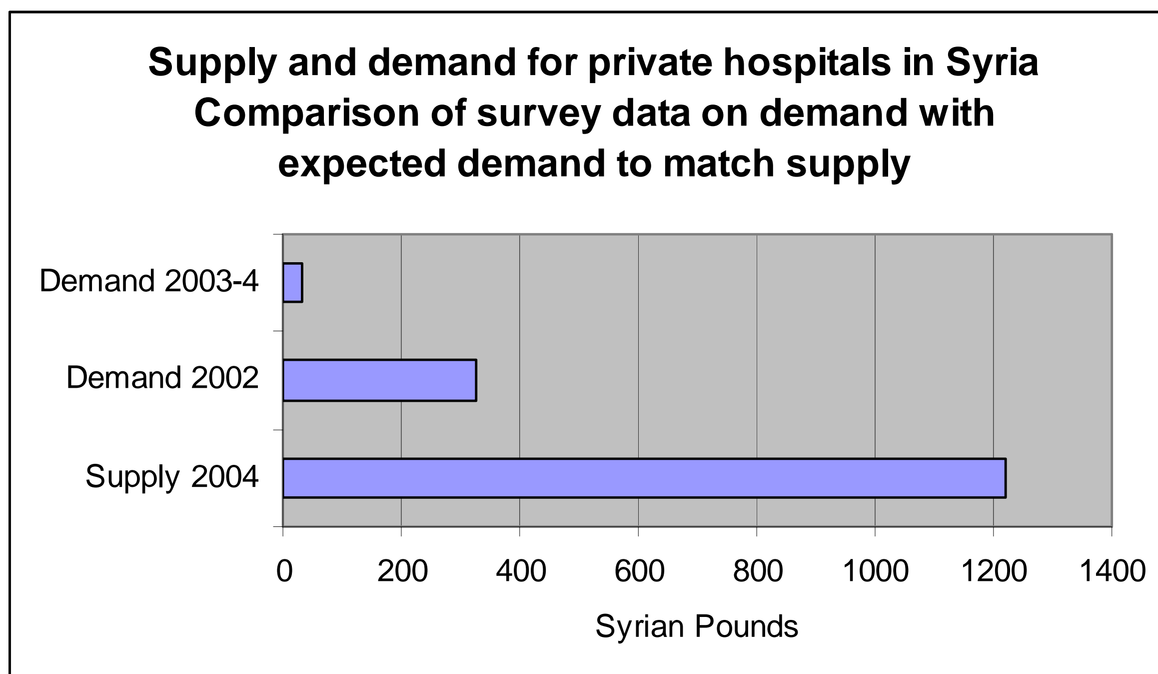
This data gives a rather different pattern of spending and a lower overall level of household health expenditures in Syria, as shown on the following graph.




Total expenditure per person per year amounts to 1536 SYP. Drugs amount to 55% of the household expenses. A serious note of caution related to hospital expenditure has to be given. For the 18 million inhabitants of Syria a spending for hospitals of 23,85 SYP per person per year – see figure above – would result in 429,3 Mio SYP per year for hospital visits. Yassin et alii estimated a yearly private hospital financing volume of 22,364 Billion Syrian Pounds in Syria.

### 3.3 Comparison of the two household surveys

Comparing this supply data with the demand data from the recent household survey would produce a tremendous gap between household spending for hospitals and the value of the hospitals in the private sector, not even taking into account that private money has to be spent in public hospitals, too. The following graph highlights the gap, which hints at the need to review carefully both sets of data, i.e. the one on household spending for hospitals and the one on private hospital financing in Syria.

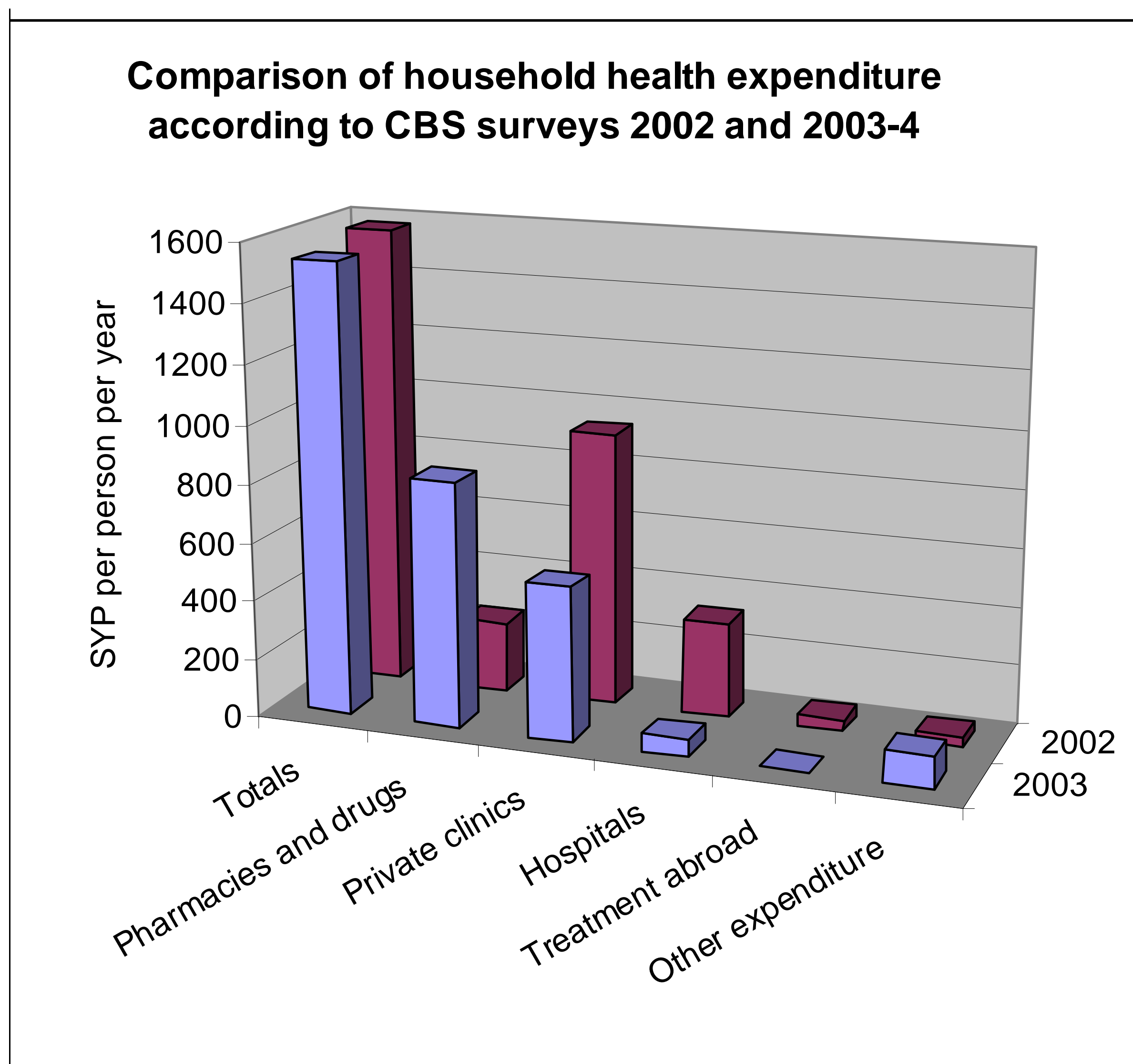



Another tremendous gap is shown in this graph, i.e. the one between the two household expenditure surveys of the same institution, the Central Bureau of Statistics. In spite of the different categories for household spending on health in both surveys, we tried our best to make the surveys comparable. The following table shows the result of this comparison.

Household health expenditure per person per year in Syrian Pounds according to two different surveys by the Central Bureau of Statistics

| | Survey 2002 | | Survey 2003-4 | |
|---|---|---|---|---|
| Values | SYP | % | SYP | % |
| Pharmacies and drugs | 241 | 15 | 839 | 55 |
| Private clinics | 937 | 59 | 527 | 34 |
| Hospitals | 327 | 21 | 60 | 4 |
| Treatment abroad | 38 | 2 | 2 | 0 |
| Other expenditure | 32 | 2 | 108 | 7 |
| Totals | 1575 | 100 | 1536 | 100 |

Drugs, for example amount to 55% of the expenditure in the 2003-survey and only to 15% in the 2002-survey. Regarding nearly all expenditure uses, the pattern of spending in 2002 and 2003 seems to be tremendously different, as can be seen well in the next graph.




The most important methodological difference between the two surveys is the recall period. In 2002 a recall period of one year was chosen for all expenditure items. In 2003-4 families were asked to fill a diary on all household expenses during ten consecutive days, including health care expenses. Two additional questions asked for one-year expenses on surgical operations and other health care. In the more recent survey the free text entries of families were coded retrospectively, in the former survey families were asked by means of a structured questionnaire.

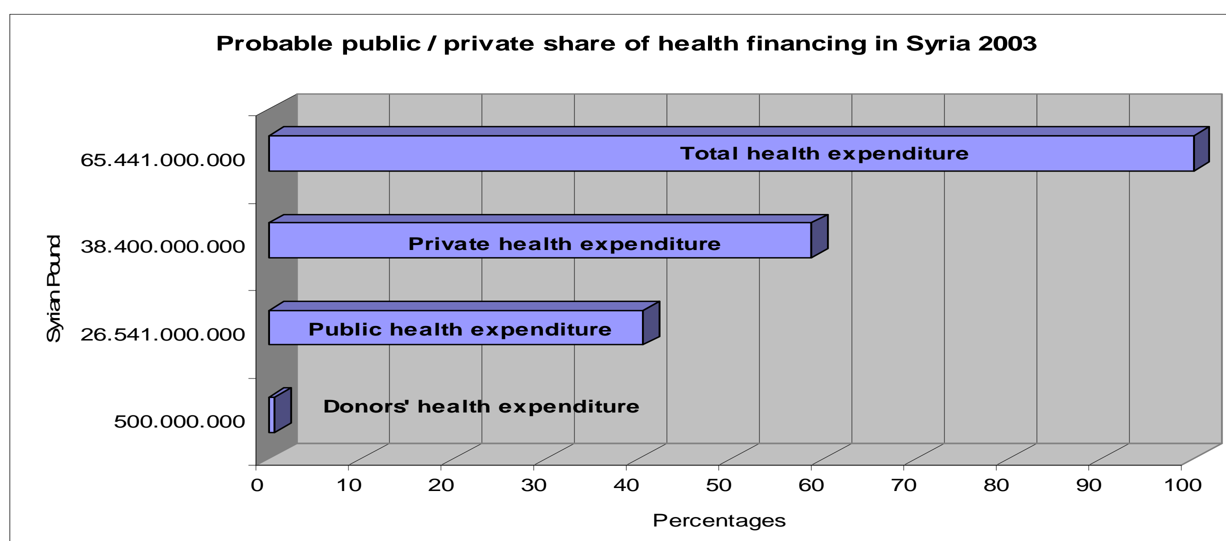
## 3.4 Estimation of probable private health expenditure pattern and level

Nevertheless, the best of both surveys might be matched to generate a reasonable estimate for the 'real' pattern and level of household health expenditure. We estimate the level of household health expenditure per person and year at 2.173 Syrian Pound.

| Probable household health expenditure pattern and level per person per year in 2002/2003 in Syrian Pound | | | | |
|---|---|---|---|---|
| Survey year | CBS survey 2002 | CBS survey 2003-4 | Best estimate choice | Match |
| Methodological comments | One year recall period | 10 days recall period | Based on educated guess | Probable pattern and level |
| Pharmacies and drugs | 241 | 839 | 10 days | 839 |
| Private clinics | 937 | 527 | Year | 937 |
| Hospitals | 327 | 60 | Year | 327 |
| Treatment abroad | 38 | 2 | Year | 38 |
| Other expenditure | 32 | 108 | Year | 32 |
| Totals | 1575 | 1536 | Year | 2173 |

## 3.5 Probable balance between public and private health expenditure

If every person spent 2.173 SYP per year for health then by the end of 2003 the population of Syria with 17.671.500 inhabitants would have spent altogether 38.4 Billion Lira. This result would significantly change the allocation between private and public health expenditure in Syria.

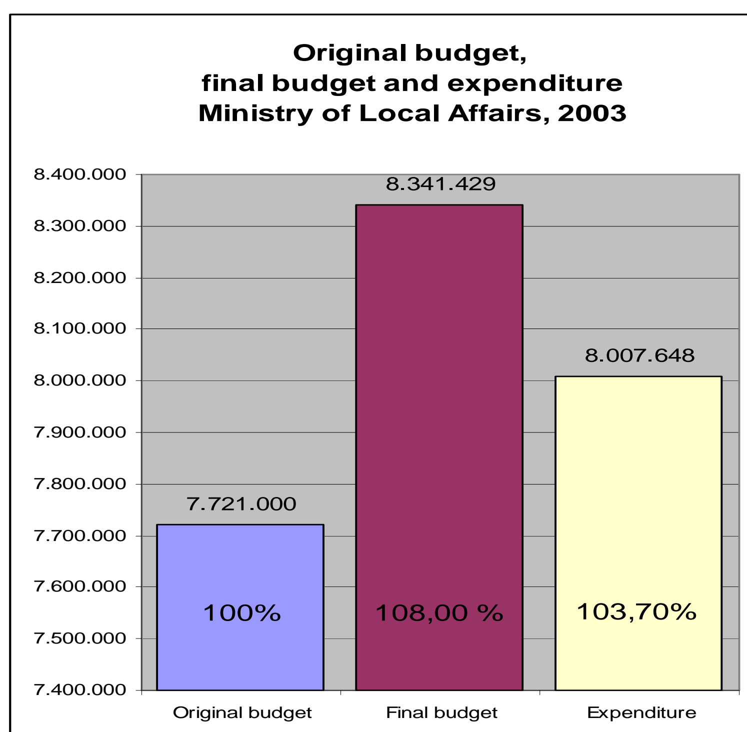


| Total direct health expenditure in Syria 2003 | | |
|---|---|---|
| Sources of health financing | SYP | % |
| Private households | 38.400.000.000 | 58.68 |
| Government | 26.541.000.000 | 40.56 |
| Donors | 500.000.000 | 0.76 |
| Total | 65.441.000.000 | 100.00 |

A sound household health expenditure survey is needed, indeed, not only for national health accounting but is essential, too, for a good health systems management.

## 4 Methodological notes

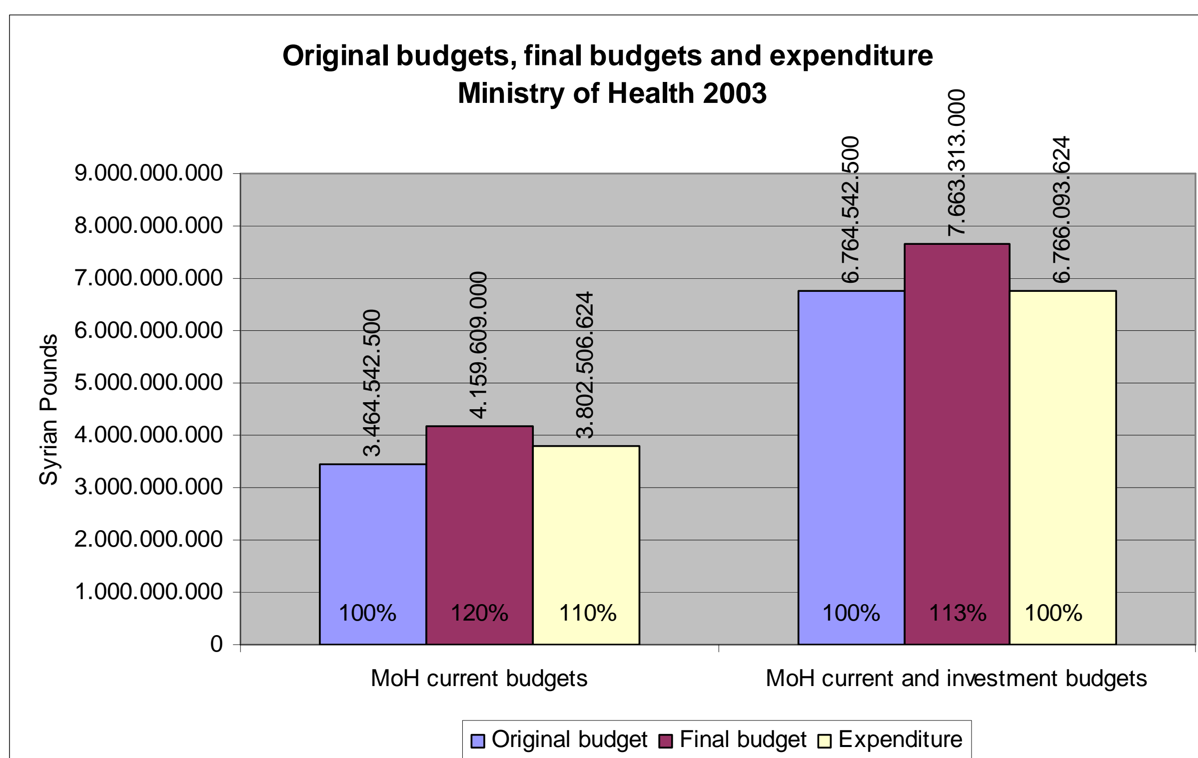
The data used in this booklet were compiled and corrected by a team headed by Dr. Mahmoud Dashash. The work on budgets was mainly done by Mrs. Roula Kaderi and her team in the Budget Division of the Department of Planning, Statistics, and International Cooperation in the Ministry of Health. Mr. Mohammad Hadi Fadda supported the analysis of household health expenditure. Mrs. Talaoum Jbara provided data on expenditure. Prof. Dr. Khaled Al Mahayni, a former Minister of Finance, supported the team with his expertise. Prof. Dr. Detlef Schwefel served as an international advisor on behalf of the Health Sector Modernisation Programme, funded by the European Union.




Budget data of the various government agencies were compiled, corrected and completed, since various missing and misleading values were discovered. Uncertainties prevail regarding the value of the health care provision of the Ministry of Defence; in view of the 'public' availability of their health care we adopt a conservative estimate. Expenditure data could not be retrieved for all institutions. In the case of the Ministry of Local Affairs, i.e. for health care in the Governorates, we labelled the original budget as 100%;

compared with this the finally approved budget which amounted to 108 % and the realized expenditure was at 104 % for the year 2003. In view of this we consider our estimations as conservative understatements for a national health accounting.

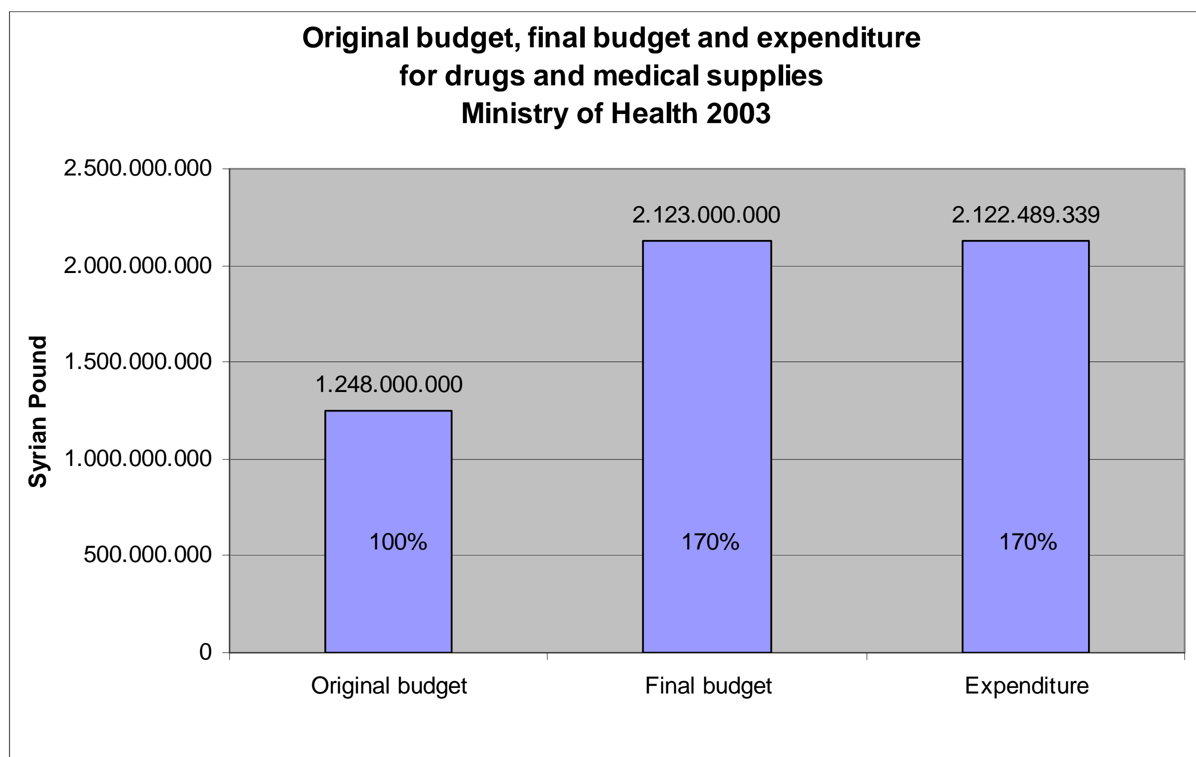
Actually we are trying to get audited expenditure data for all main government sources of health financing. For the Ministry of Health a similar comparison of original and final budgets and of expenditure brings astonishing results. Expenditure is close to exactly 100% of the original budgets, if current plus investment budgets are put together. For current expenses the final budget is nearly exactly 120% of the original budget and expenditure nearly exactly 110%. Such data has to be reviewed again.




In case of the drug & medical supply budget of the Ministry of Health the difference between original and final budgets and expenditure is quite considerable, as demonstrated in the next graph. Expenditure for drugs and medical supplies is 70% higher than the budget. In this case it is not advisable to use budget data as proxies for expenditures. For drugs and medical supplies financed by the Ministry of Local Affairs the expenditure exceeded the original budget by 19 % in the year 2003.

Budgets are given to Health Directorates but not to administrative and managerial levels below. Hospitals and primary health care facilities receive supply in kind. Therefore we used the initial versions of computerized routine information systems for estimating – for just one Governorate – the allocation of salaries, drugs, medical supplies and equipment to districts and facilities as intermediaries of health care. In view of a sustainable health accounting, we recommend using computerized drug and salary information systems. This would generate needed data in a sustainable way and improve management at the same time. Many steps towards a full-fledged

national health accounting have to be done, still. This data rests on expenditures, not on budgets.




A national survey of the Central Bureau of Statistics on household health expenditure was done in 2002. A one-page questionnaire was applied to 7.185 households with 45.330 individuals. This fast and easy approach revealed some important data. Yet, it was not able to distinguish properly the household spending on drugs, separated from outpatient and inpatient care. We assume, furthermore, that this survey underestimated the real health care expenditures – especially for drugs and medicines bought in pharmacies – because of a very long recall period for all expenses. In 2003-2004 a general household expenditure and income survey was undertaken, and it included data on health reported by families on 10-day diaries, mainly. Both surveys come to different results, as shown before.

The Health Sector Modernisation Programme of the Ministry of Health, funded by the European Union and advised by a consortium of German Agency for Development Cooperation (GTZ), EPOS and Options, plans to support a new household health expenditure survey in the near future. Currently we test two different approaches for estimating household health expenditure. Additionally a host of applied studies and research in the areas of health economics and financing is to be out contracted to explore deeper and better the context of a national health accounting in view of contributing to a sustainable framework for health financing in the Syrian Arab Republic.

# National health accounts estimates for Syria 2002 – 2004

Reported by and to the World Health Organization

| PROPOSED RATIOS AND LEVELS | 2002* | 2003 | 2004 | Data Sources or comments |
|---|---|---|---|---|
| I Expenditure ratios | | | | For government health care spending budget data were used instead of expenditure data. This produces a rather conservative estimation. |
| Total expenditure on health (THE) % GDP | 5,0 | 5,2 | 5,1 | |
| Government expenditure on health (GGHE) % THE | 45,8 | 48,2 | 47,4 | |
| Private expenditure on health (PvtHE) % THE | 54,2 | 51,8 | 52,6 | |
| GGHE % General government expenditure | 6,5 | 6,6 | 6,3 | |
| Externally funded expenditure on health (ExtFHE) % THE | 0,26 | 0,24 | 0,25 | |
| Social security expenditure on health (SSHE) % GGHE | na | na | na | |
| Net out-of-pocket spending on health (OOPS) % PvtHE | 100 | 100 | 100 | |
| Private prepaid plans expenditure on health (PvtPPHE) % PvtHE | na | na | na | |
| II Per capita levels | | | | |
| THE per capita at exchange rate (US$) | 58 | 61 | 62 | |
| GGHE per capita at exchange rate (US$) | 26 | 30 | 30 | |
| THE per capita at international dollar rate ($) | 108 | - | - | |
| GGHE per capita at international dollar rate ($) | 50 | - | - | |
| B VALUES UNDERLYING RATIOS AND LEVELS | 2002* | 2003 | 2004 | |
| Health System Expenditure & Financing (million NCU) | | | | |
| I Measured financing agents | | | | |
| Total expenditure on health (THE) | 50527 | 54955 | 56105 | |
| General government expenditure on health (GGHE) | 23127 | 26514 | 26584 | MoH estimates |
| … of which Ministry of Health | 15900 | 16364 | 16285 | MoH+MoLA |
| … of which other Ministries | na | 10150 | 10299 | + public institutions |
| … of which social security (SSHE) | 0 | 0 | 0 | |
| Private expenditure on health (PvtHE) | 27400 | 28441 | 29521 | HFT: 3,8 % GDP increase |
| … of which prepaid and risk-pooling plans (PvtPPHE) | 0 | 0 | 0 | |
| … of which net out-of-pocket spending on health (OOPS) | 27400 | 28441 | 29521 | |
| II Measured financing sources | | | | |
| Externally funded expenditure on health (ExtFHE) | 129 | 134 | 140 | OECD DAC |
| | 2002* | 2003 | 2004 | |
| III Macro variables (million NCU) | | | | |
| Gross domestic product (GDP) | 1014541 | 1052921 | 1103398 | UN NA |
| Gross domestic product (GDP) at market prices (million NCU) | 1016519 | 1067265 | 1203509 | CBS Syria |
| General government expenditure (GGE) (million NCU) | 356389 | 420000 | 449500 | CBS Syria / Law |
| Central government disbursements | 356389 | 400000 | 425000 | WHO 2002 data extrapolations |
| Private final consumption expenditure (PC) | 603243 | 634927 | 679400 | UN National Accounts |
| Private final consumption expenditure (PC) at current prices (million NCU) | 605240 | 643614 | 763999 | CBS |
| Exchange rate (NCU per US$) | 49,5 | 49,5 | 50,3 | IMF IFS |
| Exchange rate (NCU per US$) for non-commercial transactions | - | 51,58 | 52,20 | CBS Syria |
| International Dollar rate (NCU per Int$) | 26,4 | 26,2 | 26,4 | WHO estimates |
| Total population (in thousands) | 17683 | 18129 | 18582 | UNPOP May 2005 |
| Total population (in thousands) | 17130 | 17550 | 17793 | CBS Syria middle of year |

Column 2 * Data given from World Health Organization (WHO) - Abbreviations in fifth column: CBS: Central Bureau for Statistics, Syria; EIU: Economic Intelligence Unit; EU: European Union; HFT: Health Financing Team of MoH; IMF: International Monetary Fund; MoH: Ministry of Health; MoLA: Ministry of Local Affairs; NCU: National currency Units; PAM: Prof Al-Mahayni estimates; UN: United Nations.