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Estimates of Domestic Health Expenditures 1989/90 to 1996/97, Hong Kong, People's Republic of China

January 1999

Institute of Policy Studies of Sri Lanka
Health Policy Programme

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Contents

CONTENTS 1

LIST OF TABLES 3

LIST OF FIGURES 4

FOREWORD 5

NOTES ON STATISTICS 6

INTRODUCTION 7

Conceptual framework 7
Health expenditure definition 8
Classification 9

Deviations from the conceptual framework 15

Sources, presentation and revision of DHA estimates 17
Sources 17
Expenditure in real terms 17
Revision of estimates 17

Synopsis 18

PART I: OVERVIEW 19

PART II: DOMESTIC HEALTH ACCOUNTS ESTIMATES 22

Chapter 1: Total Domestic Health Expenditures: 1989/90 to 1996/97 22
1.1 Total Health Expenditures 22
1.2 Total Health Expenditure by Source of Funds 23
1.3 Total Health Expenditure and Gross Domestic Product 25

Chapter 2: Total Public and Private Health Expenditures 27
2.1 Components of total public health expenditures 27
2.2 Public health expenditures by function 28
2.3 Components of total private health expenditures 30

Chapter 3: Functional Breakdown of Health Expenditures 32

Chapter 4: Incidence of Health Expenditures 35

PART III: METHODS AND DATA SOURCES USED IN COMPILATION OF HEALTH EXPENDITURE ESTIMATES 44

Chapter 1. Estimation of Total Public Health Expenditures 44
1.1 Government departments 44
1.2 Statutory Funds 45

Chapter 2. Estimation of Private Health Expenditure **47**
2.1 Household expenditures on private doctors services 47
2.2 Employer expenditures through medical benefit schemes 48
2.3 Expenditures for inpatient services and at private hospitals 49
2.4 Household expenditures on user fees at government institutions 50
2.5 Household expenditures on other medical goods and services 50
2.6 Health expenditures by private non-profit bodies 51

Chapter 3. Estimation of Functional Breakdowns **53**

BIBLIOGRAPHY **54**

APPENDIX A: LISTING OF PROVIDERS **55**

APPENDIX B: GDP DEFLATOR AND POPULATION **57**

APPENDIX C: DHA FLOW OF FUNDS MATRICES **58**

APPENDIX D: COMPARISON OF PREVIOUS ESTIMATES OF HEALTH SPENDING WITH DHA ESTIMATES **59**

List of Tables

Table A: Functional Classification of Health Expenditures in Hong Kong 14
Table B: Total Domestic Health Expenditures (HK$ millions), Public and Private Shares and Per Capita Amounts, 1990/91 – 1996/97 20
Table C: Public and Private Contributions to Spending Categories, 1994/95 21
Table 1.1: Total Domestic Health Expenditure (TDHE) at Current Market Prices, 1989/90 - 1996/97 23
Table 1.2: Total Domestic Health Expenditure (TDHE) at Constant 1990 Dollars, 1989/90 - 1996/97 24
Table 1.3: Total Domestic Health Expenditure and GDP at Current Market Prices, 1989/90 – 1996/97 25
Table 1.4: Total Health Expenditure and GDP at Constant 1990 Dollars, 1989/90 – 1996/97 25
Table 1.5: Per capita Health Expenditure and GDP at Current Market Prices, 1989/90 – 1996/97 26
Table 1.6: Health Expenditure and GDP Per Capita at Constant 1990 Dollars, 1989/90 - 1996/97 26
Table 2.1: Public Health Expenditures According to Contributory Items at Current Market Prices, 1989/90 to 1996/97 28
Table 2.2 Public Health Expenditures According to Contributory Items at Constant 1990 Dollars 1989/90 to 1996/97 28
Table 2.3: Functional Breakdown of Public Health Expenditures as a Percentage of Total Public Health Expenditures, 1990/91 – 1996/97 29
Table 2.4: Functional Breakdown of Private Health Expenditures as a Percentage of Total, 1989/90 – 1996/97 31
Table 3.1: Relative Share of Funding by Public and Private Expenditures to Selected Functional Categories, 1995/96 32
Table 3.2: TDHE by Functional Category, 1989/90 – 1996/97 33
Table 3.3: Functional Breakdown of TDHE as a Percentage, 1989/90 – 1996/97 34
Table 4.1: Distribution of Government Health Expenditures by Income Quintiles, 1989/90 36
Table 4.2: Distribution of Government Health Expenditures by Income Quintiles, 1996/97 36
Table 4.3: Distribution of Household Health Expenditures by Income Quintiles, 1989/90 37
Table 4.4: Distribution of Household Health Expenditures by Income Quintiles, 1996/97 37
Table 4.5: Distribution of Health Expenditures by Source, 1989/90 (HK$millions) 39
Table 4.6: Distribution of Health Expenditures by Source, 1996/97(HK$millions) 39
Table 4.7: Distribution of Health Expenditures by Source (percentage), 1989/90......... 41
Table 4.8: Distribution of Health Expenditures by Source (percentage), 1996/97......... 41
Table 5.1: Total Health Expenditures as a % of GDP 43
Table A1: Provider classification codes used in Hong Kong DHA............................... 55
Table B1: GDP deflator and population.. 57
Table D1: Domestic Health Expenditures at current market prices, 1989/90 – 1996/9759
Table D2: Domestic Health Expenditures as a % of GDP, 1989/90 – 1996/97 59

List of Figures

Figure A.1: Trends in Total Domestic Health Expenditures, 1989/90 – 96/97 19
Figure A.2: Sources of Financing, 1990/91 and 1996/97 20
Figure 1.1: Trends in Total Domestic Health Expenditures ($ millions)............................ 23
Figure 1.2 : Public and Private Health Expenditures (Constant 1990 Dollars) 24
Figure 4.1: Trends in Incidence of Public Health Subsidies, 1989-96................................ 42
Figure C1: Hong Kong Domestic Health Accounts: Sources/intermediaries to providers. 58
Figure C2: Hong Kong Domestic Health Accounts: Sources to Intermediaries................. 58

Foreword

The statistical material used in compiling these estimates has been gathered from many sources. Some of the data are actual statistics, but in many instances it has been necessary to make estimates, the accuracy of which would depend on the information available and assumptions underlying the estimates.

Compilation and publication of the Domestic Health Accounts is a function of the Hong Kong SAR Government Health and Welfare Bureau (HWB). The HWB will be working in the future towards improving those areas where the estimates are known to be less reliable or comprehensive. Its ability to progress in this endeavour will depend not only on the availability of data, but also to a very large degree on the level of co-operation which is forthcoming from those individuals and organisation in the public and private sectors who are involved in the provision and regulation of health services in Hong Kong.

The text of this publication was prepared by Dr. Ravi Rannan-Eliya and Aparnaa Somanathan of the Institute of Policy Studies of Sri Lanka under contract to Harvard University. Throughout this work close liaison was maintained with HWB, its Domestic Health Accounts Team, and the Working Group on the Consultancy Study on Financing of Hong Kong Healthcare System. The inputs of the various groups appointed by HWB are gratefully acknowledged.

Notes on statistics

Any difference between totals and sums of components in tables are due to rounding. Calculation of percentages is based on unrounded estimates where available. Values are shown in Hong Kong dollars ($) unless otherwise indicated.

Unless otherwise indicated 'Government' refers to the Government of Hong Kong SAR of the People's Republic of China.

Acronyms

ACAN	Action Committee Against Narcotics
AMS	Auxiliary Medical Services
ASD	Architectural Services Department
CAO	Central Administrative Overhead
C&SD	Census and Statistics Department
CWRF	Capital Works Reserve Fund
DHA	Domestic Health Accounts
DOH	Department of Health
GDP	Gross Domestic Product
GHS	General Household Survey
GS	Government Secretariat
GSD	Government Supplies Department
HA	Hospital Authority
HES	Household Expenditure Survey
HSD	Hospital Services Department
HWB	Heath and Welfare Bureau
ICHE	International Classification for Health Expenditures
IRD	Internal Revenue Department
NHA	National Health Accounts
OECD	Organisation for Economic Co-operation and Development
SAR	Special Administrative Region
SNA	System of National Accounts
SWD	Social Welfare Department
TDHE	Total Domestic Health Expenditure
UGC	University Grants Committee

Introduction

This report contains the estimates, adopting international standards, of Domestic Health Expenditures of Hong Kong SAR for the period 1989/90 to 1996/97. Estimates of the flow of funds in the health system in 1996/97 are also presented.

The report has the following objectives: (i) to present time series of health expenditures for the years 1989/90 – 1996/97; (ii) to provide an overview of health expenditures for the period; (iii) to present estimates of the DHA of Hong Kong for the fiscal year 1996/97; (iv) to describe briefly the methodology for compiling Hong Kong DHA.

Conceptual framework

The compilation of Domestic Health Accounts (DHA) estimates for Hong Kong accords both conceptually and methodologically to the compilation of National Health Accounts (NHA) in other advanced economies. There is currently no internationally accepted and agreed framework for NHA. However, Hong Kong's DHA is consistent with the latest general practice and norms, as have they have evolved in the 1990s. A special effort has also been made to ensure maximum compatibility between the Hong Kong DHA framework and recent OECD proposals for standardisation of health accounts *(Principles of Health Accounting for International Data Collections, OECD 1997*). These OECD proposals are yet to be fully implemented by most OECD member countries, and so the Hong Kong DHA can be regarded as being based on a technical standard in advance of most OECD countries, and one that will be adopted gradually during 1998-2000. The most comparable health accounts in terms of comprehensiveness, international comparability and detail to those of Hong Kong will those of the United States, Germany, Canada and Australia. It should be noted by adopting the NHA approach, the DHA is estimated in a similar manner to the National Income Accounts, but with some differences.

The conceptual framework for Hong Kong's DHA comprises the definition of what constitutes health expenditure, the institutional entities involved, and the specification of the types of disaggregation possible. The structure includes the classifications and nomenclature used to identify and disaggregate expenditures, either by purpose, type or ultimate beneficiary, and the temporal reference period.

The conceptual framework and structure for Hong Kong's DHA was developed according to the following criteria:

- It should be policy relevant and easily interpretable by health sector policy makers
- It should be compatible with international practice
- It should be reproducible

- Categories used in classifications should be mutually exclusive
- It should be feasible to estimate given secondary data regularly available, or with limited primary data collection.

A systematic review of international practice with respect to definitions and the functional classification of expenditures was carried out. Based on this review, the system of classification of expenditures and the corresponding definitions used in the estimates was developed through a process of consultation and consensus involving a group of government representatives appointed by HWB. Group members represented all government agencies and bodies involved in the financing and provision of health care. The results of the international review and the final agreed definitions used are presented in an accompanying report available from HWB, *Provisional Functional Classification System for Domestic Health Accounts of Hong Kong SAR, People's Republic of China.*

Health expenditure definition

Health expenditures are defined as all expenditures or outlays for prevention, promotion, rehabilitation, and care; population activities, and emergency programs for the specific and predominant objective of improving health. Health includes both the health of individuals as well as that of groups of individuals or populations. Expenditures are defined on the basis of their primary purpose, regardless of the primary function or activity of the entity providing or paying for the associated health services. Expenditures for the purpose of training or educating health sector personnel, which imparts health sector specific knowledge and skills, as well as health-related research are defined as being for the purpose of health improvement when applying this definition.

There is no internationally accepted definition of what constitutes health expenditures, but this definition is comparable to that conventionally used in other national health accounts and national health expenditure studies.

Total Domestic Health Expenditures (TDHE)

These are defined as all health expenditures for the benefit of individuals resident in Hong Kong. Expenditures for the benefit of Hong Kong citizens living abroad are excluded, although expenditures in other territories or countries for the benefit of residents of Hong Kong are included, as well as expenditures for the benefit of foreign citizens resident in Hong Kong. For the purposes of the DHA, the scope of the resident population is defined as excluding members of the People's Liberation Army and other employees of extra-territorial bodies stationed in the Special Administrative Region and their dependants.

This definition is comparable to that used by HCFA in estimating US National Health Expenditures. The conceptual framework for Hong Kong's DHA as specified in the

paper, *Provisional Functional Classification System for Domestic Health Accounts of Hong Kong* provides a comprehensive definition of what constitutes health expenditure, the institutional entities involved and the specification of the types of disaggregation involved.

Base year for DHA

Hong Kong's DHA has been estimated initially on a fiscal year basis, corresponding to the fiscal year of the SAR Government, 1 April – 31 March. The base year of the estimates is 1996/97.

Accounting basis

Expenditures are counted using a cash basis, that is, the fiscal year defined for expenditures on the provision of health care goods and services is the year in which the health care goods and services are actually paid for by the funding source or agency. Annual Government expenditures are generally counted on the identical basis to which they are reported annually in the General Revenue Estimates, which is identical to this definition. Exceptions to this definition are noted where they occur.

Classification

In Hong Kong's DHA, expenditures are measured and organised on the basis of the entities making the expenditures, and those entities passing or using the expenditures. The classification of entities within Hong Kong's health care system is thus critical for estimating and structuring Hong Kong's DHA. Three sets of entities are defined: (i) financing sources, (ii) financial intermediaries and (iii) providers. Entities are defined as economic agents who are capable of owning assets, incurring liabilities, and engaging in economic activities or transactions with other entities. They can consist of individuals, groups of individuals, institutions, enterprises, government agencies or private non-profit bodies/institutions.

Financing sources

Financing sources are defined as entities, which ultimately bear the expenses of financing the health care system. In operationalising this definition, a similar convention to that used in the UN SNA (System of National Accounts) is followed. In general, non-government organisations are treated as ultimate financing sources, not the households or other entities that pay contributions to them. Similarly, the Government is considered an ultimate financing source, not the entities, which pay taxes to it or provide it with revenues. One difference to SNA practice is observed; where firms or employers provide or pay for health services as part of the regular compensation of employees, these expenditures are treated as being by the employer, and not expenditures out of the income of households, which is SNA practice.

Financing sources are grouped into five mutually exclusive institutional sectors:

1) Government
2) Private non-profit bodies
3) For-profit enterprises/private employers
4) Households
5) Foreign sources

The classification of funding sources within each sector is as follows:

1. Government of Hong Kong SAR
Treasury

2. Non-profit bodies/institutions

3. For-profit enterprises/private enterprises

4. Households

5. Foreign sources

This broad grouping of sectors corresponds both to general national income accounting practice, as well as NHA practice in most countries.

Non-profit bodies/institutions acting as funding sources consist of such bodies as the Jockey Club, Li Po Charitable Trust Fund, Board of Management of Chinese Permanent Cemeteries, and Queen Elizabeth Foundation.

For-profit enterprises are the category explicitly identified in national income accounting. In the case of Hong Kong's DHA, this category of funding sources refers almost exclusively to private employers who spend money to provide medical benefits to their employees. It does not refer to all employers, as the government's expenditures on providing medical benefits to civil servants are counted as expenditures by the Government of Hong Kong SAR. The term "private employers" can thus be used interchangeably with that of "for-profit enterprises" for the purpose of DHA. Other expenditures on health by for-profit enterprises would in theory include donations by private firms to charities for health purposes and expenditures to provide work-place related occupational health services to employees. In this first compilation of DHA, the second of these expenditures are not covered explicitly by the estimation procedures owing to lack of data, and the first are considered are small in volume.

Financial intermediaries

Financial intermediaries are defined as entities that pass funds from financing sources to other financial intermediaries or providers in order to pay for the provision of health services.

The following financial intermediaries are identified in the Hong Kong DHA:

- Government departments:

1) Health and Welfare Bureau
2) Department of Health
3) Hospital Authority
4) Auxiliary Medical Services
5) Hospital Services Department
6) Fire Services Department
7) Agriculture and Fisheries Department
8) Government Laboratories
9) Social Welfare Department
10) Other government agencies and departments
11) Subventions to other agencies
12) Capital Works Reserve Fund
13) Lotteries Fund
14) Other government funds

- Samaritan Fund
- Employer health schemes/private health insurance schemes

Providers

Providers are defined as institutional entities that produce and provide health care goods and services, which benefit individuals or population groups.

The classification of providers by sector is as follows:

Government of Hong Kong SAR

1. Health & Welfare Bureau
2. Department of Health
3. Auxiliary Medical Services
4. Government Laboratories
5. Hospital Services Department
5. Other government departments
6. Hospital Authority
7. Subvented public agencies and autonomous bodies

Academic and training institutions

Private non-profit bodies/institutions

1. Non-profit providers

Enterprise own services

Enterprise own services refer to medical services directly provided by private firms themselves to their employees, instead of by payment to other medical providers. The amount of these services and expenditures are negligible.

For-profit providers

A. Private modern medical providers
   1. Private hospitals
   2. Private medical practitioners

B. Private dental providers

C. Diagnostic / imaging service providers

D. Private Traditional Chinese medicine practitioners

E. Drug retail outlets
   i) Pharmacies
   ii) Shops
   iii) Traditional Chinese medicine shops

iv) Other traditional Chinese medical product retailers

Foreign providers

A complete listing of providers, who are separately coded in the DHA, are included in the estimates is provided in Appendix A.

Beneficiaries

Expenditures are also disaggregated according to the following breakdown of beneficiaries.

Socio-economic

From the perspective of equity, the distribution of health expenditures across socio-economic groups is important. Expenditures are estimated for income/expenditure quintiles, where individuals are ranked according to their per capita household income/expenditure, as reported in the GHS surveys conducted by Census and Statistics Department.

Geographic

It was decided for these first DHA estimates that geographical breakdowns of spending within the SAR territory would not be attempted for lack of data.

Functions

The Hong Kong DHA estimates total NHE, and specifies how this is distributed by financing and provider entities. In addition, estimates and supplementary matrices are presented, which show the use of expenditures by particular functions and use of services.

The classification system was developed following close consultation with relevant government agencies. For reasons of international comparability it is based closely on the Draft International Classification for Health Expenditure (ICHE) proposed by OECD in 1997 (OECD 1997). Consistent with the OECD approach, all health expenditures are categorised into two types of function:

1. Core functions of medical care
2. Health-related functions

Each of these are further disaggregated to give a total of nine major functions of health care expenditure, as shown:

1. Personal health services
2. Distribution of medical goods
3. Collective health services
4. Health programme administration and health insurance
5. Investment into medical facilities
6. Education and training of health personnel
7. Research and development in health
8. Environmental health
9. Administration and provision of cash benefits

Each of these are further subdivided into smaller and more specific groups of functions, all of which are assigned a specific code, termed the HKDHA code. Full details are given in *Provisional Functional Classification System for Domestic Health Accounts of Hong Kong*, which accompanies this report. Table 1 presents the full listing of functions used, their HKDHA code, and the corresponding OECD ICHE code.

It should be noted that in accordance with emerging international practice, the DHA does not make a specific distinction between capital and recurrent health expenditures. There are number of both conceptual and methodological reasons why this is not useful. Instead, as indicated, expenditures on investment into medical facilities (HKDHA F5) are separately categorised, and this corresponds most closely to the concept of capital expenditures.

Table A: Functional Classification of Health Expenditures in Hong Kong

FUNCTION	CODE	ICHE CODE
Core functions of health care		HA.1-4
1. Personal health services	F1	HA.1
• Hospital services	F1.1	HA.1.1.4
Acute hospital care	F1.1.1	
Psychiatric hospital care	F1.1.2	
Extended care	F1.1.3	
Ambulatory services	F1.2	HA.1.1
Registered medical practitioners	F1.2.1	
General practitioners	F1.2.1.1	
Specialists	F1.2.1.2	
Other registered medical practitioners	F1.2.1.3	
Other registered medical care professionals	F1.2.2	
TCM providers	F1.2.3	
Unregistered medical care professionals	F1.2.4	
Laboratory services	F1.2.5	HA.1.1.2
Diagnostic services	F1.2.6	HA.1.1.3
Dental services	F1.2.7	
Psychological and socio-psychological services	F1.2.8	HA.1.1.7
• Residential nursing care/long term care for frail elderly people	F1.3	HA.1.1.5 - 6
• Home care	F1.4	
• Patient transport and emergency rescue	F1.5	HA.1.3
2. Distribution of medical goods	F2	HA.2.
• Pharmaceuticals	F2.1	HA.2.1.1-2
• Therapeutic appliances and medical equipment	F2.2	HA.2.2.1-9
3. Collective health services	F3	HA.3
• Health promotion and disease prevention	F3.1	HA.3.1
— Maternal and child health	F3.1.1	HA3.1.1
— Family planning	F3.1.2	HA3.1.1
— Disease prevention	F3.1.3	
– Prevention of communicable diseases	F3.1.3.1	HA.3.1.2
– Prevention of non-communicable diseases	F3.1.3.2	HA.3.1.4
— Health promotion	F3.1.4	HA.3.1.3
— School health services	F3.1.5	HA.3.1.5
— Food hygiene control	F3.1.6	HA.3.1.6
— Control of drinking water, environmental surveillance	F3.1.7	HA.3.1.7
• Other collective health services	F3.2	HA.3.2
— Occupational health care	F3.2.1	HA.3.2.1
4. Health programme administration and health insurance	F4	HA.4
— Health programme administration	F4.1	HA.4.1
— Administration of health insurance	F4.2	HA.4.2
Health related functions		HA.5 – 9
1. Investment into medical facilities	F5	HA.5
2. Education and training of health personnel	F6	HA.6
3. Research and development in health	F7	HA.7
4. Environmental health	F8	HA.8
5. Administration and provision of cash-benefits	F9	HA.9

Deviations from the conceptual framework

The estimation of health expenditures for the period 1989-97 followed the definitions specified in the conceptual framework. Institutions providing health and health related services were identified and their and their expenditures estimated accordingly. The following cases are exceptions where, due to the lack of reliable data or for reasons of materiality there were deviations from the framework in compiling the current set of estimates.

- ASD incurs both capital and recurrent expenditures in providing services to DH and HA institutions. Health-related building projects and capital subventions were identified. Recurrent expenditures of ASD spent in relation to hospitals and clinics are excluded in the first DHA. Other departmental programmes are also relevant to hospitals and clinics projects, in terms of architectural design, contract award and supervision, project management services, etc. for Government building / development projects. However, neither the actual expenditure breakdown of these other departmental programmes on hospitals and clinics, nor a reasonable percentage estimation are available. When the cross-charging mechanism between ASD and HA is in place in the future and more accurate expenditure figures are available, the recurrent expenditure item of ASD's health expenditures will be included.

- Expenditures on health related departmental programmes for which accurate data were not readily available and which did not constitute a significant proportion of total public health expenditures, defined as being below a set materiality limit, are excluded, as in the cases below:

  (a) Anti-drug preventative education and publicity of ACAN
  (b) Air ambulance service expenditures of the Government Flying Service: The health related component could not be identified separately with the data available.
  (c) Occupational health programmes of Labour Department: Expenditures related to the enforcement of safety and health regulation and related publicity efforts may be categorised as Occupational health care, F3.2.1 under the conceptual framework and are relevant to health expenditure estimation. Data were insufficient to quantify them for these DHA estimates.
  (d) Treatment of clinical waste discharged by Government clinics and HA hospitals: Classified as Environmental health, F8, expenditures on clinical waste disposal are incurred by the Urban Services Department, Regional Services Department HA and Environment Protection Department. Since the data available for incomplete and the share of this item in the total was below the materiality limit, a decision was taken to exclude them. More efforts will be made in future DHA estimation to obtain more comprehensive data.
- Expenditures on food safety and control, which are being carried out at the municipal level, are not taken into account. It is not the international norm to include

food safety and sanitation expenditures in National Health Accounts as the primary purpose of those programmes is not health itself although they concurrently bring some health benefits to the society.

- Only the CAO's of major health providers – DOH, HA, HWB, HSD and SWD - are included. The proportion of other departments' CAO's that may be imputed as being towards health was considered too small to estimate individually.

- Health expenditures at regional and urban councils have not been included due to incomplete availability of data at the time of preparation of estimates.

Sources, presentation and revision of DHA estimates

Sources

The HKDHA estimates are derived from various data sources. SAR government budget documents and annual reports provide a reliable source of public sector expenditure data. Hospital Authority provided some data specifically for the purpose of DHA. Private health expenditure estimates are based on analysis of a number of different sources. Official sources include the Census and Statistics Department (C&SD) Household Expenditure Survey, C&SD General Household Survey, DOH and HA statistics and IRD data on profits taxes. Other sources of data, which have been used, include information provided by the Hong Kong Medical Insurance Association, IMS (Pacific) data on pharmaceutical market trends, and data collected specially for the Consultancy Study on the Financing of the Hong Kong Health Care System.

Expenditure in real terms

Throughout, all expenditures are presented both in nominal terms (current market prices) and real terms (constant 1990 dollars). In order to obtain the latter the implicit price deflator (1990=100) of GDP is used. Since the deflator is available on a calendar year basis it had to be adjusted to a fiscal year basis. No attempt is made to deflate health expenditures using a health sector specific deflator. Appendix B shows both the calendar and fiscal year deflators. Similar adjustments were also made for GDP numbers, which were also available on a calendar year basis.

Revision of estimates

These are the first DHA estimates. They attempt to achieve a compromise between timeliness and detail on one side and data quality on the other. As with any such estimations, revisions will be necessary to the methodology and numbers as new data sources become available, as improved estimation procedures are developed, and as the conceptual framework itself is revised with future needs and trends in international practice. Routine revisions will therefore be necessary in future years in order to maintain and improve the quality and usefulness of the DHA, as well as update it.

Synopsis

Part I contains an overview of health expenditures. The first chapter looks at trends in total domestic health expenditures over the period 1989/90 – 1996/97 and source of funds, public and private. Next total and per capita health expenditures are compared relative to GDP. The functional breakdown of national health expenditures is presented in the third section. The final section makes international comparisons of national or domestic health expenditures. The second chapter deals with public and private health expenditures respectively in the same manner.

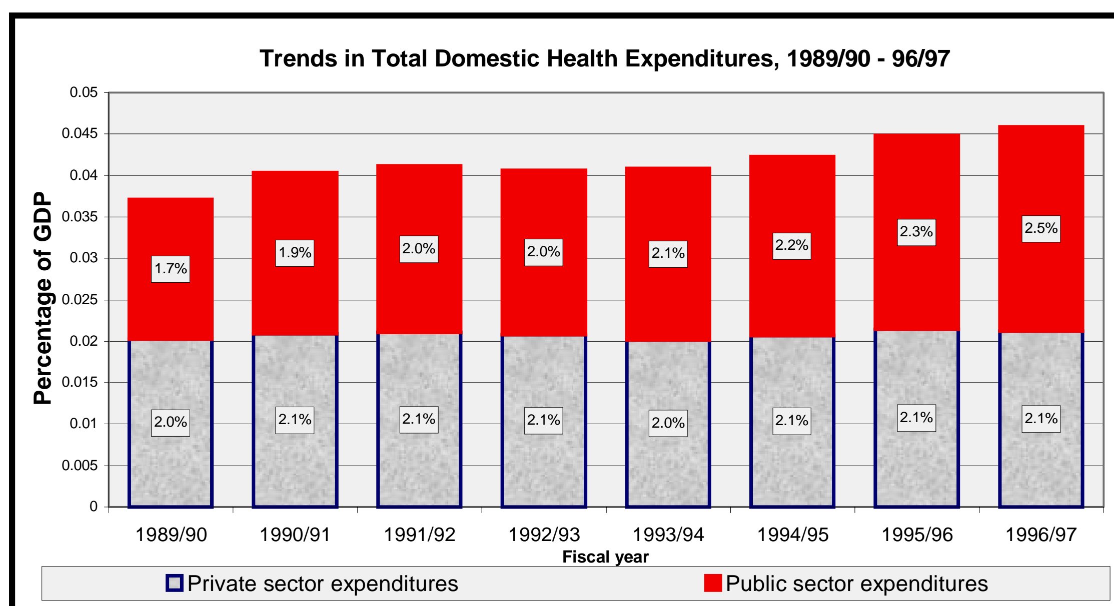
Part II describes the data sources and methods used in compiling this set of health expenditure estimates. The first section deals with public estimates and the second section with private estimates.

It must be emphasised that these are estimates based on the data available at the time of preparation. By their very nature, most expenditures in the private sector and by households are not recorded in a formal sense. Consequently, the estimates for private expenditures presented in this report are subject to a normal degree of error and uncertainty. The estimates for private expenditures should therefore be regarded as being accurate to within $2000 millions in 1996/97. Overall the compilers believe that the quality and accuracy of the private estimates are good and comparable to any other advanced economy. Public expenditures are subject to some inaccuracy owing to some estimations, but the degree of error is considered small, and total public expenditures as stated can be regarded as accurate to within $500 millions in 1996/97.

Part I: Overview

Total Domestic Health Expenditures in Hong Kong SAR amounted to $ 56,237 millions in 1996/97 fiscal year, with per capita spending $ 8,911. Health spending as a share of gross domestic product (GDP) came to 4.6% (Table A.1). This represented a culmination of gradual increases as a share of GDP from 1990/91, when it was 4.0% (Figure A.1).

Figure A.1: Trends in Total Domestic Health Expenditures, 1989/90 – 96/97

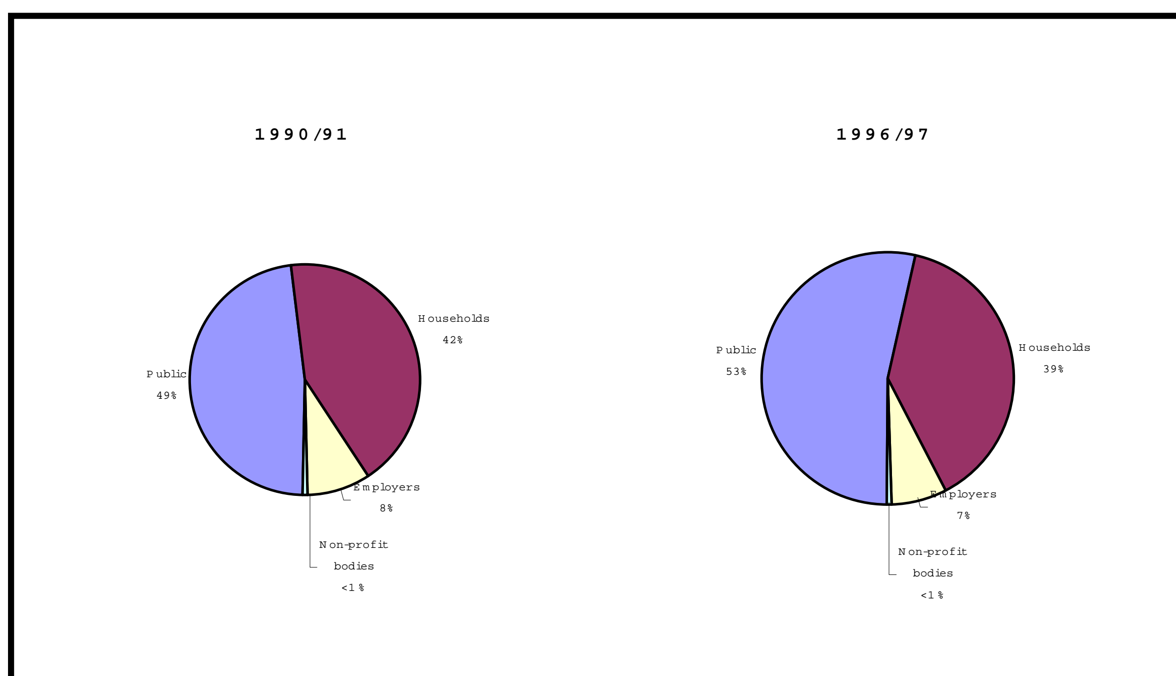


Public expenditures for health comprise 54% of total health spending in 1996/97. The share of public expenditures in total spending has gradually increased since 1990/91 when it was 48% of total (Table A.1). Private spending, which made up the remaining 46% in 1996/97, has maintained its approximate level as a percentage of GDP during this time.

Table B: Total Domestic Health Expenditures (HK$ millions), Public and Private Shares and Per Capita Amounts, 1990/91 – 1996/97

	Fiscal year						
	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Total Domestic Health Expenditures	24,383	28,640	32,865	37,810	43,424	49,529	56,237
Public expenditures	11,772	13,968	16,045	19,146	22,186	25,824	30,218
Private expenditures	12,611	14,672	16,820	18,664	21,238	23,705	26,019
Public share of total	48%	49%	49%	51%	51%	52%	54%
TDHE as percentage of GDP	4.0%	4.1%	4.1%	4.1%	4.2%	4.5%	4.6%
TDHE per capita	4,274	4,979	5,666	6,407	7,195	8,045	8,911
TDHE per capita (constant 1990 HK$)	4,178	4,452	4,631	4,845	5,144	5,571	5,847

Figure A.2: Sources of Financing, 1990/91 and 1996/97



Private spending consists mostly of household direct expenditures and expenditures by employers (Figure A.2). Public and private sources of financing make different contributions to the financing of different categories of health spending. Detailed comparisons cannot be made for all types of health spending, but Table A.2 presents comparisons for four major categories in 1994/95, when public and private health expenditures accounted for equal shares of TDHE. Hospital services and inpatient services are predominantly publicly funded, while most spending in the ambulatory services category is private. Private spending on insurance administration and profits is greater than government direct expenditures on overall administration and administrative support services, which are represented by expenditures on central

administrative overheads (CAO's). Education and training is chiefly a public responsibility in financing.

Table C: Public and Private Contributions to Spending Categories, 1994/95

Spending category	Public share of funding	Private share of funding	Share of total TDHE
Hospital services	75%	25%	39.1%
Ambulatory services	24%	76%	38.9%
Health programme/health insurance administration	39 %	61%	1.7%
Education and training of health personnel	92 %	8%	4.1%

In comparison with other advanced economies, health expenditures in Hong Kong are relatively low as a share of GDP (Table 5.1). Public expenditures on health as a share of total health spending and as a share of GDP is also less than in other advanced economies with available statistics.

Tables D1 and D2 in Annexe D compare previous estimates of health spending with these DHA estimates.

Part II: Domestic Health Accounts Estimates

Chapter 1: Total Domestic Health Expenditures: 1989/90 to 1996/97

This section presents first the trends in nominal and real domestic health expenditures in Hong Kong during the period under coverage.

Total domestic health expenditures (TDHE), as defined in this context, comprise expenditures for:

a) Core functions of health care, consisting of

- Personal health services which refers to in-patient and out-patient care
- Distribution of medical goods
- Collective health services which refers mainly to government supplied public health programmes
- Health programme administration and health insurance

b) Health related functions, consisting of

- Investment in medical facilities
- Education and training
- Research and development
- Environmental health
- Administration and provision of cash benefits

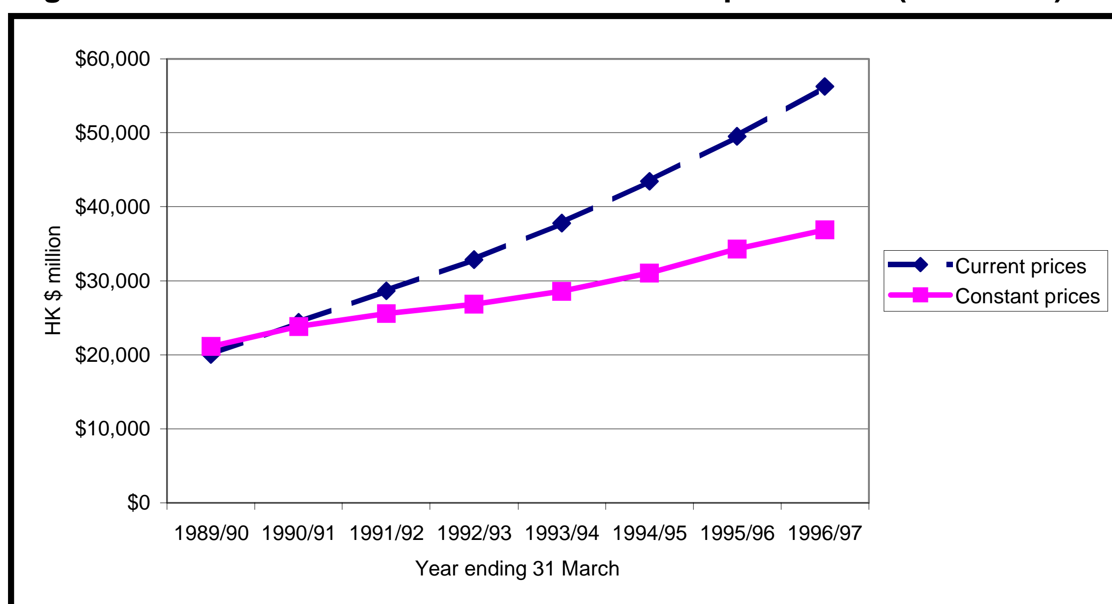
This coverage corresponds with the definition of Gross National Expenditure on Health (GNEH) used in *OECD Health Data 1997.* It is also similar to that proposed in OECD (1997), except that the latter definition excludes expenditures on education, training, research, environmental health, and administration and provision of cash benefits.

This definition is also practically equivalent to the Gross Domestic Expenditures on Health (GDEH) as defined by OECD (1997); GDEH differs from GNEH in that it excludes payments made abroad for medical care for the benefit of residents, but since this item of expenditure has not been separately estimated for these DHA estimates, the two identities are in effect the same.

1.1 Total Health Expenditures

Total domestic health expenditure (TDHE) increased 180% from HK$ 20,058 millions to HK$ 56,237 millions at current market prices between 1989/90 and 1996/97 as seen in Figure 1.1. However, this does not take into account inflation. In constant 1990 dollars the increase was from HK$ 21,169 millions to HK$ 36,901 millions, only a 74% increase.

Figure 1.1: Trends in Total Domestic Health Expenditures ($ millions)



1.2 Total Health Expenditure by Source of Funds

Public health expenditures at current market prices grew from HK$ 9,057 million in 1989/90 to HK$ 30,218 million in 1996/97. Private expenditures at current prices grew from HK$ 11,001 million to HK$ 26,019 million during the same period as seen in Table 1.1.The same expenditure trends are expressed in constant 1990 dollars in Table 1.2.

Table 1.1: Total Domestic Health Expenditure (TDHE) at Current Market Prices, 1989/90 - 1996/97

HK $ million

Year	*Total public sources*	*Total private sources*	*Total domestic health expenditure*
1989/90	$9,057	$11,001	$20,058
1990/91	$11,772	$12,611	$24,383
1991/92	$13,968	$14,672	$28,640
1992/93	$16,045	$16,820	$32,865
1993/94	$19,146	$18,664	$37,810
1994/95	$22,186	$21,238	$43,424
1995/96	$25,824	$23,705	$49,529
1996/97	$30,218	$26,019	$56,237

Table 1.2: Total Domestic Health Expenditure (TDHE) at Constant 1990 Dollars, 1989/90 - 1996/97

HK $ million

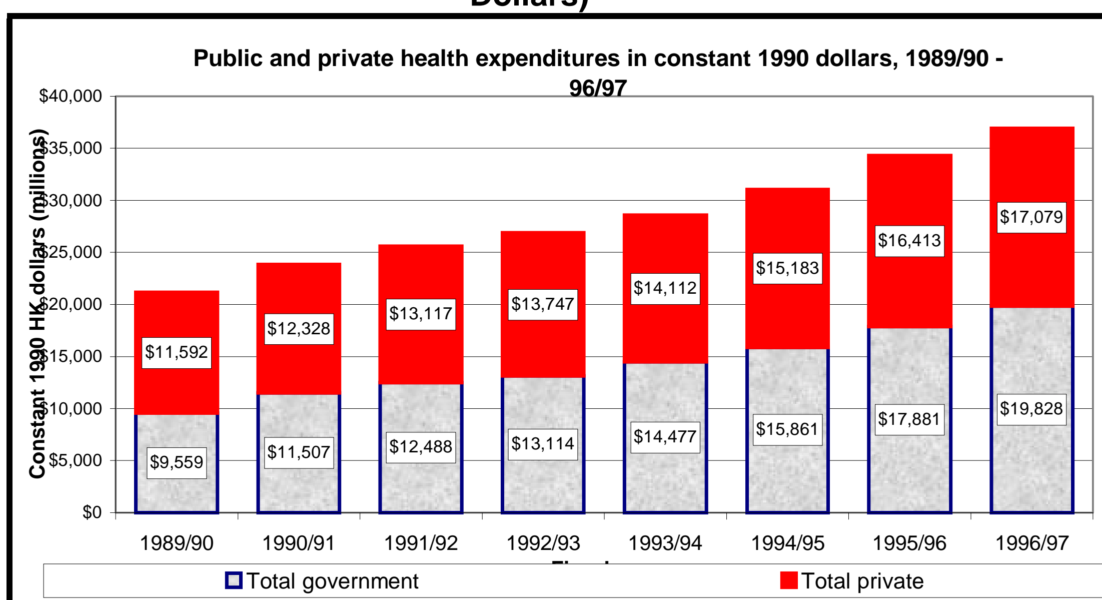
Year	*Total public sources*	*Total private sources*	*Total domestic health expenditure*
1989/90	$9,559	$11,610	$21,169
1990/91	$11,507	$12,328	$23,835
1991/92	$12,488	$13,117	$25,605
1992/93	$13,114	$13,747	$26,861
1993/94	$14,477	$14,112	$28,590
1994/95	$15,861	$15,183	$31,045
1995/96	$17,881	$16,413	$34,294
1996/97	$19,828	$17,073	$36,901
Period trend	10.9% p.a	5.6% p.a	8.0%p.a

Note: Period trends have been calculated as the compound growth rates over the seven-year period.

In real terms, this represented an increase from HK$ 21,169 to HK$ 36,901 . As Table 1.2 and Figure 1.2 show public health expenditures in real terms increased from HK$ 9,559 million to HK$ 19,828 million and private expenditures from HK$ 11,610 million to HK$ 17,073 million.

At the beginning of the 1990s, private expenditures accounted for more than half of total domestic health expenditures. However, as public expenditures throughout the time period grew faster (10.4% per year) than private expenditures (5.5% per year), public expenditures eventually reached and surpassed private expenditures during 1992-1994. By 1996/97, public expenditures accounted for just over half of all health expenditures.

Figure 1.2 Public and Private Health Expenditures (Constant 1990 Dollars)



1.3 Total Health Expenditure and Gross Domestic Product

This section presents trends in health expenditure relative to GDP and in per capita terms. Annual rates of change in expenditure are also provided.

Table 1.3: Total Domestic Health Expenditure and GDP at Current Market Prices, 1989/90 – 1996/97

	Gross Domestic Product		*Total health expenditure*		
Financial year	*GDP (HK$m)*[1]	*Annual increase(%)*	*Health Expenditure (HK$m)*	*Annual increase (%)*	*Health as a proportion of GDP*
1989/90	$538,533		$20,058		3.7%
1990/91	$604,040	12.2%	$24,383	21.6%	4.0%
1991/92	$696,218	15.3%	$28,640	17.5%	4.1%
1992/93	$808,867	16.2%	$32,865	14.8%	4.1%
1993/94	$925,819	14.5%	$37,810	15.0%	4.1%
1994/95	$1,027,450	11.0%	$43,424	14.8%	4.2%
1995/96	$1,105,948	7.6%	$49,529	14.1%	4.5%
1996/97	$1,226,026	10.9%	$56,237	13.5%	4.6%

Source: [1]GDP figures from 'Estimates of Gross Domestic Product 1961 to 1997 – Hong Kong, The 1998/99 Budget.

Table 1.4: Total Health Expenditure and GDP at Constant 1990 Dollars, 1989/90 – 1996/97

	Gross Domestic Product		*Total health expenditure*		
Financial year	*GDP (HK$m)*[1]	*Annual increase(%)*	*Health Expenditure (HK$m)*	*Annual increase (%)*	*Health as a proportion of GDP*
1989/90	$568,373		$21,169		3.7%
1990/91	$590,459	3.9%	$23,835	12.6%	4.0%
1991/92	$622,457	5.4%	$25,605	7.4%	4.1%
1992/93	$661,109	6.2%	$26,861	4.9%	4.1%
1993/94	$700,052	5.9%	$28,590	6.4%	4.1%
1994/95	$734,549	4.9%	$31,045	8.6%	4.2%
1995/96	$765,760	4.2%	$34,294	10.5%	4.5%
1996/97	$804,479	5.1%	$36,901	7.6%	4.6%

Source: [1]GDP figures from 'Estimates of Gross Domestic Product 1961 to 1997 – Hong Kong, The 1998/99 Budget.

As Tables 1.3 and 1.4 illustrate, health expenditures during this time period have increased faster than the rate of GDP growth. Consequently, TDHE as a share of GDP has increased from 3.7% to 4.6% of GDP. This increase in TDHE as a share of GDP is largely due to increases in public expenditures. Private expenditures on health have increased continuously during this time period, but the rate of increase has been similar to that of GDP, and so private expenditures have remained relatively stable as a share of GDP at 2.0 – 2.1% of GDP. Public expenditures as a share of GDP have increased from 1.7% of GDP in 1989/90 to 2.5% of GDP in 1996/97.

These trends relate to the total level of health expenditures in the SAR. Since the population of the SAR is also increasing over time, the level of health spending per person in the territory has increased at a lower rate than TDHE. Tables 1.5 and 1.6 give trends in per capita health expenditures during 1989/90 to 1996/97. Overall, real per capita health spending increased at an annual rate of 6.5% during 1989/90 to 1996/97, compared with an increase in real GDP per capita of 3.5% (Table 1.6).

Table 1.5: Per capita Health Expenditure and GDP at Current Market Prices, 1989/90 – 1996/97

	Gross Domestic Product		*Total health expenditure*	
Financial year	*GDP per capita (HK$)*[1]	*Percentage change in GDP per capita*	*Health Expenditure per capita (HK$)*	*Percentage change in health expenditure per capita*
1989/90	$94,709		$3,527	
1990/91	$105,888	11.8%	$4,274	21.2%
1991/92	$121,039	14.3%	$4,979	16.5%
1992/93	$139,448	15.2%	$5,666	13.8%
1993/94	$156,892	12.5%	$6,407	13.1%
1994/95	$170,237	8.5%	$7,195	12.3%
1995/96	$179,651	5.5%	$8,045	11.8%
1996/97	$194,268	8.1%	$8,911	10.8%

Source: [1]GDP figures from 'Estimates of Gross Domestic Product 1961 to 1997 – Hong Kong, The 1998/99 Budget.

Table 1.6: Health Expenditure and GDP Per Capita at Constant 1990 Dollars, 1989/90 - 1996/97

	Gross Domestic Product		*Total health expenditure*	
Financial year	*GDP per capita (HK$)*[1]	*Percentage change in GDP per capita*	*Health Expenditure per capita (HK$)*	*Percentage change in health expenditure per capita*
1989/90	$99,956		$3,723	
1990/91	$103,508	3.6%	$4,178	12.2%
1991/92	$108,216	4.5%	$4,452	6.5%
1992/93	$113,975	5.3%	$4,631	4.0%
1993/94	$118,633	4.1%	$4,845	4.6%
1994/95	$121,707	2.6%	$5,144	6.2%
1995/96	$124,390	2.2%	$5,571	8.3%
1996/97	$127,472	2.5%	$5,848	5.0%
Period trend		3.5% p.a.		6.5%

Source: [1]GDP figures from 'Estimates of Gross Domestic Product 1961 to 1997 – Hong Kong, The 1998/99 Budget.

Chapter 2: Total Public and Private Health Expenditures

2.1 Components of total public health expenditures

Public sector health expenditures consist primarily of spending by the national government. Expenditures at local government level and by regional and urban councils have been excluded from these estimates.

Government department: Programme expenditures

This includes spending by direct health care providing departments, DOH, HSD, AMS and HWB, and those providing health related services such as Agriculture and Fisheries Department and SWD. A complete listing of providers is given in Appendix A.

Government subventions: Hospital Authority

Recurrent and capital expenditures incurred by HA since its inception in 1991/1992 are included here.

Medical Schools

Education and training expenditures by the government that are attributable to the two medical schools, Chinese University of Hong Kong and Hong Kong University, Prince Philip Dental Hospital and the Alliance Health Programmes of the Hong Kong Polytechnic University are included here.

Central administrative overheads

Expenditures incurred by government departments such as Audit and Government Supplies Department in providing administrative overheads to DOH, HSD, HWB and HA are included here.

Staff on costs

A significant increase in cash expenditures occurred with the establishment of HA because of the need to explicitly fund staff benefits of personnel transferred from civil service to HA conditions. In order to allow for a more meaningful comparison of expenditures over time it was necessary to adjust all public sector expenditures by adding the implicit staff-on costs for all civil service employees.

Statutory funds

Health related capital spending funded by Capital Works Reserve Fund, Lotteries Fund and Samaritan Fund are quantified here.

Tables 2.1 and 2.2 below shows a breakdown of public spending according to the contributions made by different items at current market prices and constant 1990 dollars respectively.

Direct programme expenditures account for the bulk of government health expenditures. Additional expenditures in the form of CAO's, staff-on-costs, and expenditures by CWRF and other government funds account for approximately 11% of total government health expenditures. The importance of CAO's and staff-on-costs as a share of total has been declining since 1992, as HA pre-funds retirement plans for its staff, and has increasingly been paying directly for administrative and other ancillary support services provided to it by other government funds and departments.

Table 2.1: Public Health Expenditures According to Contributory Items at Current Market Prices, 1989/90 to 1996/97

Financial year	*Expenditure of government departments*			*Statutory Funds*	*Total*
	Programme expenditures	*CAO's*	*Staff-on-costs*		
1989/90	$6,694	$155	$1,360	$848	$9,057
1990/91	$8,709	$202	$1,746	$1,115	$11,772
1991/92	$11,082	$227	$1,569	$1,090	$13,968
1992/93	$14,056	$243	$661	$1,085	$16,045
1993/94	$16,855	$258	$743	$1,290	$19,146
1994/95	$19,646	$277	$855	$1,409	$22,186
1995/96	$22,886	$214	$930	$1,794	$25,824
1996/97	$26,937	$157	$1,013	$2,110	$30,218

Table 2.2 Public Health Expenditures According to Contributory Items at Constant 1990 Dollars 1989/90 to 1996/97

Financial year	*Government departments*			*Statutory Funds*	*Total*
	Programme expenditures	*CAO's*	*Staff on costs*		
1989/90	$7,065	$163	$1,435	$895	$9,559
1990/91	$8,513	$197	$1,707	$1,090	$11,507
1991/92	$9,908	$203	$1,403	$975	$12,488
1992/93	$11,489	$199	$540	$887	$13,114
1993/94	$12,745	$195	$562	$975	$14,477
1994/95	$14,045	$198	$611	$1,007	$15,861
1995/96	$15,846	$148	$644	$1,242	$17,881
1996/97	$17,675	$103	$665	$1,384	$19,828

2.2 Public health expenditures by function

A summary of the functional breakdown of public health expenditures as a percentage of total is given below in Table 2.3. The overall pattern of public health expenditures has remained relatively stable during the time period. 76-79% of total public health expenditures has consistently been spent on personal health services. Within this category, most (54-58% of total public expenditures) has been allocated to hospital services, which is mostly inpatient and Accident and Emergency department

expenditures. Outpatient expenditures by HA, HSD and DOH account for only 18% of total public expenditures, and this share has not changed significantly. Collective health services expenditures have maintained a constant share of 4.2-4.5% of total. Investment into medical facilities and plant declined initial from 10% of total to reach 8% in 1994/95, before increasing to 11% in 1996/97.

Table 2.3: Functional Breakdown of Public Health Expenditures as a Percentage of Total Public Health Expenditures, 1990/91 – 1996/97

Public health expenditures on fiscal year basis (percentage of total), 1974-1998

CODE	Sub-categories	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Core functions of health care								
F1	Personal health services	76.0%	78.1%	79.6%	78.4%	79.3%	78.9%	76.8%
F1.1	>Hospital Services	54.4%	56.6%	58.0%	56.7%	57.3%	57.0%	55.4%
F1.2	>Ambulatory Services	18.0%	18.2%	18.1%	18.1%	18.4%	18.4%	18.1%
F1.3 - 5	> Others	3.6%	3.4%	3.5%	3.7%	3.6%	3.5%	3.3%
F2	Distribution of medical goods	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F3	Collective health services	4.5%	4.4%	4.4%	4.3%	4.2%	4.2%	4.2%
Health related functions								
F4	Health programme administration and health insurance	2.2%	1.7%	1.6%	1.4%	1.3%	0.9%	0.6%
F5	Investment into medical facilities	10.3%	9.0%	7.5%	8.7%	7.9%	8.3%	11.0%
F6	Education and training of health personnel	6.9%	6.8%	6.9%	7.2%	7.4%	7.6%	7.3%
F7	Research and development in health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F8	Environmental health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F9	Administration and provision of cash benefits	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total domestic health expenditures		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

2.3 Components of total private health expenditures

Household expenditures

This includes expenditures by households on health goods and services obtained from both public and private providers of health care.

Employer insurance schemes

Expenditures by private employers to provide or finance health services for employees and dependants.

Medical insurance schemes

Expenditures for health goods and services financed by medical insurance.

Charities and other non-profit institutions

This includes spending by charities like Jockey Club on health related services.

A summary of the functional breakdown of private health expenditures as a percentage of totals is given below in Table 2.4. As with public expenditure, approximately three-quarters of total private expenditures are for personal health services, with the share actually increasing from 75% to 80%. However, the use of this category of expenditures differs significantly in that private expenditures are mostly paying for ambulatory services (58-60% of total private expenditures compared with 18% of public expenditures). Expenditures on hospital services have increased as a share of total, but it remains significantly less than with public expenditures (17-20% of total private expenditures compared with 54-58% of public expenditures).

A substantial share of private expenditures is accounted for by the category 'Distribution of medical goods'. This refers mainly to the purchase of drugs and other health goods and traditional Chinese medical products from retail outlets. There is no comparable type of expenditures by the public sector, as government health facilities provide medicines and supplies as part of their treatment.

Private expenditures on training and investment are minimal, although the share of private expenditures going to investment in medical facilities is understated because of limitations in the available data, which do not permit sufficient disaggregation of total private expenditures.

Table 2.4: Functional Breakdown of Private Health Expenditures as a Percentage of Total, 1989/90 – 1996/97

Private health expenditures on fiscal year basis (percentage of total), 1974-1998

CODE	Sub-categories	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Core functions of health care								
F1	Personal health services	75.4%	76.4%	77.9%	80.1%	80.4%	80.2%	79.8%
F1.1	>Hospital Services	17.4%	18.0%	18.7%	19.3%	20.0%	20.9%	20.2%
F1.2	>Ambulatory Services	58.0%	58.5%	59.2%	60.8%	60.4%	59.2%	59.6%
F1.3 - 5	>Others	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F2	Distribution of medical goods	20.6%	19.7%	18.5%	17.9%	16.8%	15.8%	16.0%
F3	Collective health services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Health related functions								
F4	Health programme administration ar	3.4%	3.2%	2.5%	1.3%	2.1%	3.2%	3.4%
F5	Investment into medical facilities	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F6	Education and training of health per:	0.5%	0.7%	1.1%	0.7%	0.6%	0.8%	0.8%
F7	Research and development in healtl	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F8	Environmental health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F9	Administration and provision of cash	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total domestic health expenditures		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chapter 3: Functional Breakdown of Health Expenditures

The functional purpose of expenditures is presented here. Health expenditures are disaggregated into spending categories as defined in the DHA conceptual framework. Table 3.1 provides a comparison of the use of public and private expenditures by function for 1995/96, when total public and private health expenditures were approximately equal. As is evident, the pattern in use of public and private expenditures is different. Hospital services are funded predominantly by public spending, while ambulatory services are predominantly private funded. Note that Table 3.3 does not include expenditures by households on medicines and supplies purchased from retail outlets. Education and training is largely a public spending responsibility.

Table 3.2 below provides disaggregation of total domestic health expenditures by function of purpose. Table 3.3 provides a summary of the functional breakdown of total health expenditure as a percentage of totals. Personal health services form the largest share of total spending, averaging 75% annually. Collective health services contribute to around 2% of total. Investment in facilities spending averages 4-6 % with the exception of 1990/91 and 1996/97 when it peaked at 5.9%

Table 3.1: Relative Share of Funding by Public and Private Expenditures to Selected Functional Categories, 1995/96

	Public expenditures	*Private expenditures*
Hospital services	75%	25%
Ambulatory services	25%	75%
Health programme/health insurance administration	24%	76%
Education and training	91%	9%

Table 3.2: TDHE by Functional Category, 1989/90 – 1996/97

Total domestic health expenditures on fiscal year basis, 1974-1998

CODE	Sub-categories	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Core functions of health care									
F1	Personal health services	15,353	18,460	22,125	25,862	29,960	34,672	39,387	43,999
F1.1	>Hospital Services	7,460	8,593	10,539	12,443	14,454	16,966	19,686	22,003
F1.2	>Ambulatory Services	7,518	9,439	11,117	12,855	14,804	16,905	18,797	20,991
F1.2.1	>Registered medical practitioners	5,822	7,380	8,623	9,915	11,352	12,846	14,197	15,868
F1.2.2	>Other registered medical care practitioners	187	274	317	363	405	466	546	619
F1.2.3	>TCM providers	495	594	783	994	1,238	1,520	1,765	1,964
F1.2.4	>Unregistered medical care practitioners	-	-	-	-	-	-	-	-
F1.2.5, F1.2.6	>Laboratory services, Diagnostic services	210	241	286	334	386	448	493	552
F1.2.7	>Dental services	723	859	1,009	1,157	1,325	1,518	1,677	1,862
F1.2.8	>Psychological and socio-psychological services	70	75	81	91	98	108	119	127
F1.3	>Residential nursing care / long term care for fr	9	11	12	16	22	31	39	55
F1.4	>Home care	52	-	-	-	-	-	-	-
F1.5	>Patient transport and emergency rescue	315	417	457	548	680	770	866	950
F2	Distribution of medical goods	2,285	2,604	2,884	3,120	3,342	3,564	3,741	4,162
F3	Collective health services	400	534	613	708	814	923	1,085	1,277
		-	-	-	-	-	-	-	-
Health related functions		-	-	-	-	-	-	-	-
F4	Health programme administration and health insuranc	559	697	704	676	519	746	1,005	1,062
F5	Investment into medical facilities	848	1,208	1,260	1,210	1,673	1,743	2,144	3,325
F6	Education and training of health personnel	610	876	1,050	1,284	1,495	1,769	2,159	2,400
F7	Research and development in health	-	-	-	-	-	-	-	-
F8	Environmental health	2	3	4	6	7	7	8	10
F9	Administration and provision of cash benefits	-	-	-	-	-	-	-	-
Total domestic health expenditures		20,058	24,383	28,639	32,864	37,809	43,423	49,528	56,236

Table 3.3: Functional Breakdown of TDHE as a Percentage, 1989/90 – 1996/97

Total domestic health expenditures on fiscal year basis (percentage of total), 1974-1998

CODE	Sub-categories	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
	Core functions of health care								
F1	Personal health services	76.5%	75.7%	77.3%	78.7%	79.2%	79.8%	79.5%	78.2%
F1.1	>Hospital Services	37.2%	35.2%	36.8%	37.9%	38.2%	39.1%	39.7%	39.1%
F1.2	>Ambulatory Services	37.4%	38.7%	38.8%	39.1%	39.2%	38.9%	38.0%	37.3%
F1.2.1	>Registered medical practitioners	29.0%	30.3%	30.1%	30.2%	30.0%	29.6%	28.7%	28.2%
F1.2.2	>Other registered medical care practitioners	0.9%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
F1.2.3	>TCM providers	2.5%	2.4%	2.7%	3.0%	3.3%	3.5%	3.6%	3.5%
F1.2.4	>Unregistered medical care practitioners	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F1.2.5, F1.2.6	>Laboratory services, Diagnostic services	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
F1.2.7	>Dental services	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.4%	3.3%
F1.2.8	>Psychological and socio-psychological services	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
F1.3	>Residential nursing care / long term care for fra	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
F1.4	>Home care	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F1.5	>Patient transport and emergency rescue	1.6%	1.7%	1.6%	1.7%	1.8%	1.8%	1.7%	1.7%
F2	Distribution of medical goods	11.4%	10.7%	10.1%	9.5%	8.8%	8.2%	7.6%	7.4%
F3	Collective health services	2.0%	2.2%	2.1%	2.2%	2.2%	2.1%	2.2%	2.3%
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Health related functions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F4	Health programme administration and health insuranc	2.8%	2.9%	2.5%	2.1%	1.4%	1.7%	2.0%	1.9%
F5	Investment into medical facilities	4.2%	5.0%	4.4%	3.7%	4.4%	4.0%	4.3%	5.9%
F6	Education and training of health personnel	3.0%	3.6%	3.7%	3.9%	4.0%	4.1%	4.4%	4.3%
F7	Research and development in health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F8	Environmental health	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
F9	Administration and provision of cash benefits	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total domestic health expenditures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chapter 4: Incidence of Health Expenditures

This section presents estimates of the distribution of health expenditures in the functional category of personal health services across individuals. Using available data and making certain assumptions, the distribution of both public and private health expenditures across income groups is estimated. In all the tables in this section, individuals are ranked into quintiles according their respective average household income per capita. Each quintile contains the one fifth of the population, and all members in a particular household will belong to the same quintile, as they share the same average household income per capita.

Private expenditures are predominantly direct payments by households for the services of private doctors, private hospital admissions, user fees at government providers, and other health care goods and services. The distribution of these four types of expenditures is presented. In addition to the expenditures directly by households, the government incurs expenditures to provide subsidised health care services to households. Using available utilisation data, it is possible to estimate the proportionate share of these services utilised by different households. Since the cost to the government of these services is known, it is then possible to impute the approximate level of expenditures by the government in providing these services to different groups of households by assuming that the value of each unit of service received by each patient is the same. The methodology used in comparable to those in the recent European Union/COMAC study of the distribution of health expenditures in OECD countries (van Doorslaer et al., 1993).

Table 4.1 and 4.2 give the distribution by income quintiles of public health expenditures for personal medical services in 1989/90 and 1995/96. Tables 4.3 and 4.4 present the same information for private expenditures. The distribution of public health subsidies is based on the General Household Surveys of doctors' consultations (1989, 1996) and hospitalisations (1989, 1995) carried out by C&SD. The distribution of household health expenditures is derived from the Household Expenditure Surveys carried out by C&SD (1989/90 and 1994/95). Public health expenditures considered here consist of government expenditures on personal health services only, and exclude capital expenditures.

Tables 4.1 and 4.2 show that in both years, government expenditures on personal health services consist mostly of expenditures on inpatient services. Both inpatient and outpatient subsidy expenditures benefit the poorer quintiles more than the wealthier quintiles. The higher the level of household income, the lower the amount of government subsidy received. For example, in 1996/97, the poorest quintile would have benefited from 25% of HA inpatient expenditures, compared with the richest quintile, which would have benefited from only 16% of such expenditures. In general, all types of government subsidy spending examined demonstrate a greater incidence in the lowest quintiles than the richest quintiles. Given the limits in the accuracy of the data used, there is no

significant difference between 1989/90 and 1996/97 in the shares of government spending benefiting particular quintiles.

Table 4.1: Distribution of Government Health Expenditures by Income Quintiles, 1989/90

	Share of utilisation (%)			***Government subsidies (HK$ millions)***		
Per capita income quintiles	*Govt Hospital Admissions*[1]	*Govt Assisted hospital – OPD*[2]	*Govt doctors*[2]	*Govt Hospital Inpatient*	*Govt Hospital Outpatient*	*DH Outpatient*
Bottom	25.5%	33%	31%	1,592	188	230
2nd	19.9%	21%	21%	1,246	118	152
3rd	22.1%	14%	22%	1,380	77	165
4th	16.0%	20%	15%	997	111	113
Top	16.5%	13%	10%	1,031	73	76
Total	100.0%	100%	100%	6,246	567	737

Notes:
Since numbers presented in Tables 4.1 to 4.8 are derived from data collected in different surveys in different years, the HK$ range of each income quintile differs for each survey. In this and following tables, the last row indicates the total subsidy or expenditure in that year for the whole population in HK$ millions.
Sources:
1. GHS Special Topic Survey on Hospitalisations Oct-Dec1989.
2. GHS Special Topic Survey on Doctor Consultations January 1989.

Table 4.2: Distribution of Government Health Expenditures by Income Quintiles, 1996/97

	Share of utilisation			***Government subsidies (HK$ millions)***		
Per capita income quintiles	*HA hospital admission*[1]	*Doctors in HA OPD's*[2]	*Doctors in DH* clinics[2]	*HA inpatient*	*HA outpatient*	*DH outpatient*
Bottom	24.8%	26%	31%	4,739	1,051	550
2nd	18.5%	20%	24%	3,534	818	421
3rd	20.7%	20%	16%	3,951	796	283
4th	19.6%	22%	16%	3,750	886	276
Top	16.4%	11%	12%	3,143	451	216
Total	100.0%	100%	100%	19,118	4,002	1,746

Sources:
1. GHS Special Topic Survey on Hospitalisations August 1995.
2. GHS Special Topic Survey on Doctor Consultations May- June 1996.

Household health expenditures are shown in Tables 4.3 and 4.4. These account for the bulk of private expenditures. Employer expenditures are not tabulated as data are not available to estimate their distribution by income level. Private expenditures show a very different distribution to public expenditures, with the amounts increasing with increasing household income per capita. The richest quintile accounted for 32% of spending at private doctors compared with 8% for the poorest quintile in 1989/90.

According to the C&SD's HES 1994/1995, between 1989/90 and 1996/97, there was a noticeable change in the distribution of expenditures on user fees at government providers, with them becoming increasingly concentrated in the richest quintile (Tables 4.3 and 4.4). Similar, but less marked shifts can be observed in household expenditures for private hospital admission and at private doctors. However, this is contrasts with the overall level of utilisation across quintiles as reported in the GHS data, which shows little change in patterns of utilisation of government providers during this time period (Tables 4.1 and 4.2). It is unclear whether this is due to an increase in user charges paid by upper income households at government providers relative to those paid by lower income quintiles, or whether the different patterns observed are due to survey error. The reality of such trends might warrant further investigation, perhaps, by direct interview on a regular basis of a sample of patients using government providers.

Table 4.3: Distribution of Household Health Expenditures by Income Quintiles, 1989/90

Per capita income quintiles	***% utilisation rates***	***% expenditure breakdown***	***User fees***[3]	***Household expenditures (HK$ millions)***		***User fees***
	Private Hospital Admission[1]	*Private doctors*[2]		*Private inpatient*	*Private outpatient*	
Bottom	7%	8%	16%	42	266	21
2nd	9%	15%	22%	56	530	28
3rd	15%	19%	17%	89	668	22
4th	27%	27%	25%	164	937	32
Top	42%	32%	20%	250	1128	26
Total	100%	100%	100%	601	3,529	130

Sources:
1. GHS Special Topic Survey on Hospitalisations 1991
2. C&SD Average Monthly Health Expenditure per capita tabulations 1989/90
3. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1989, Sept 1990

Table 4.4: Distribution of Household Health Expenditures by Income Quintiles, 1996/97

Per capita income quintiles	***% utilisation rates***	***% expenditure breakdown***	***User fees***[3]	***Household expenditures (HK$ millions)***		
	Private Hospital Admission[1]	*Private doctors*[2]		*Private inpatient*	*Private outpatient*	***User fees***
Bottom	12.2%	5.5%	10.0%	483	572	99
2nd	10.2%	13.6%	12.4%	404	1411	122
3rd	15.3%	15.3%	12.2%	607	1578	120
4th	20.3%	28.6%	18.6%	806	2956	183
Top	42.0%	37.0%	46.8%	1665	3826	461
Total	100.0%	100.0%	100.0%	3,965	10,344	985

Sources:
1. GHS Special Topic Survey on Hospitalisations 1995
2. C&SD Average Monthly Health Expenditure per capita tabulations 1994/95
3. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1994, Sept 1995

Tables 4.5 – 4.8 summarise the overall distribution of health expenditures by income quintile. In general, public expenditures appear to be targeted towards the lower income households, while private expenditures increase with income level. During the time period 1989-96, the incidence of government health expenditures in all quintiles increased in dollar terms. This reflects an increased level of public health spending overall, and not a significant change in the distribution of government or private expenditures by income level. The increase in the role of public spending is most marked in the third and fourth quintiles.

Table 4.5: Distribution of Health Expenditures by Source, 1989/90 (HK$millions)

Quintiles	*Government subsidy*			*Household expenditures*				*TOTAL*
	Hospital IP[1]	*Hospital OP*[2]	*DH OP*[2]	*Private IP*[3]	*Private OP*[4]	*Other*	*Govt user fees*[5]	
Bottom	1,592	188	230	42	266	n.a.	21	n.a.
2nd	1,246	118	152	56	530	n.a.	28	n.a.
3rd	1,380	77	165	89	668	n.a.	22	n.a.
4th	997	111	113	164	937	n.a.	32	n.a.
Top	1,031	73	76	250	1,128	n.a.	26	n.a.
Total	*6,246*	*567*	*737*	*601*	*3,529*	n.a.	*130*	*15,353*

Note: Estimations of household expenditures on other medical goods and services by quintiles not available.

Sources:

1. GHS Special Topic Survey on Hospitalisations Oct-Dec1989.
2. GHS Special Topic Survey on Doctor Consultations January 1989.
3. GHS Special Topic Survey on Hospitalisations 1991
4. C&SD Average Monthly Health Expenditure per capita tabulations 1989/90
5. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1989, Sept 1990

Table 4.6: Distribution of Health Expenditures by Source, 1996/97(HK$millions)

Quintiles	*Government subsidy*			*Household expenditures*					*TOTAL*
	Hospital IP[1]	*Hospital OP*[2]	*DH OP*[2]	*Private IP*[3]	*Private OP*[4]	*Medical supplies therapeutic equipment*[4]	*Chinese medicine*[4]	*Govt user fees*[5]	
Bottom	4,739	1,051	550	483	572	11	64	99	7,533
2nd	3,534	818	421	404	1,411	31	190	122	7,271
3rd	3,951	796	283	607	1,578	60	495	120	7,900
4th	3,750	886	276	806	2,956	63	431	183	9,447
Top	3,143	451	216	1,665	3,826	945	1,093	461	11,391
Total	19,118	4,002	1,746	3,965	10,344	1,110	2,273	985	*43,542*

Sources:

1. GHS Special Topic Survey on Hospitalisations August 1995.
2. GHS Special Topic Survey on Doctor Consultations May- June 1996.
3. GHS Special Topic Survey on Hospitalisations 1995
4. C&SD Average Monthly Health Expenditure per capita tabulations 1994/95
5. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1994, Sept 1995

For all quintiles, public spending is the largest source of funding for inpatient services (53% public versus 5% private in 1989/90 and 44% and 9% respectively in 1996/97. Outpatient services are predominantly funded by public sources only in the case of the poorest quintile. At higher income levels the contribution of public spending towards the funding of outpatient services declines with respect to private spending. However, at the same time the role of household spending for private outpatient services decreased, with it accounting for 30% of total spending in 1989/90 and 24% in 1996/97.

Considering both inpatient and outpatient expenditures, public spending increased its relative contribution to the funding of personal health services in the case of all quintiles except the richest quintile during 1989-97 (Figure 4.1). This increased share of public spending reflects the overall increase in public spending in total domestic health expenditures during the same time period. At the same time, individuals in the richest quintile appear to have increased their reliance on their own spending, by increasing use of private doctors and private hospitals.

Table 4.7: Distribution of Health Expenditures by Source (percentage), 1989/90

Per capita income quintiles	*Government subsidy*			*Household expenditures*			*TOTAL*
	Hospital IP[1]	*Hospital OP*[2]	*DH OP*[2]	*Private IP*[3]	*Private OP*[4]	*Govt user fees*[5]	
1	68%	8%	10%	2%	11%	1%	100%
2	59%	6%	7%	3%	25%	1%	100%
3	57%	3%	7%	4%	28%	1%	100%
4	42%	5%	5%	7%	40%	1%	100%
5	40%	3%	3%	10%	44%	1%	100%
Total	53%	5%	6%	5%	30%	1%	100%

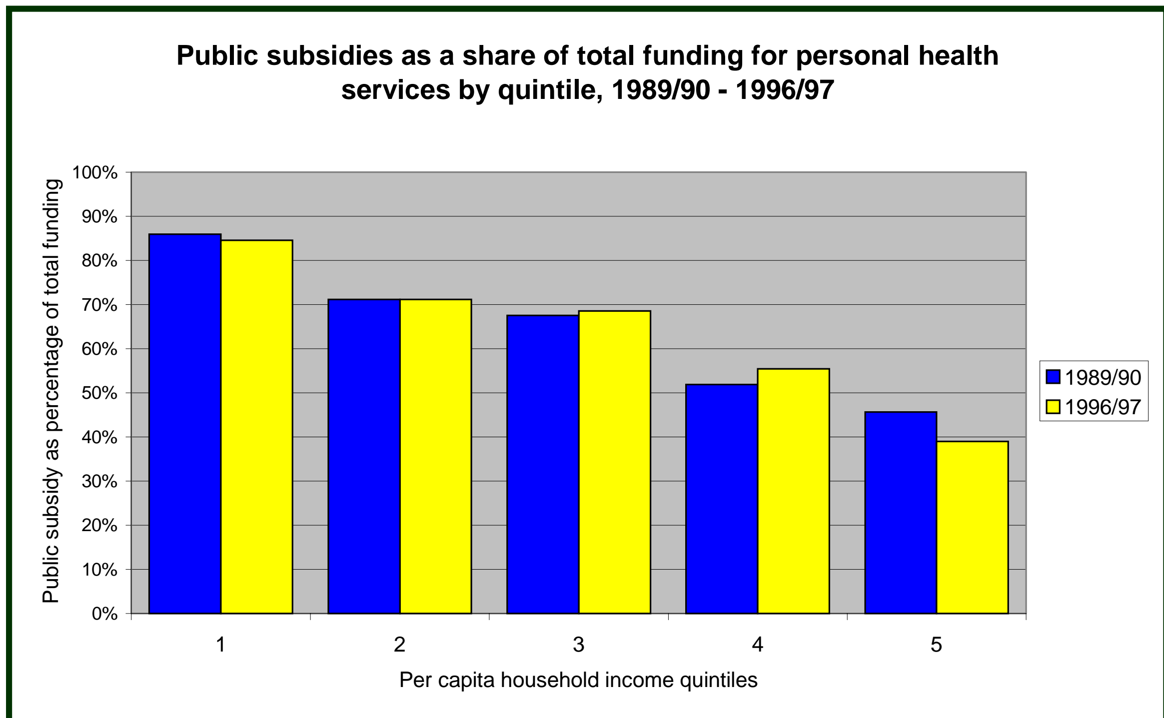
Sources:
1. GHS Special Topic Survey on Hospitalisations Oct-Dec1989.
2. GHS Special Topic Survey on Doctor Consultations January 1989.
3. GHS Special Topic Survey on Hospitalisations 1991
4. C&SD Average Monthly Health Expenditure per capita tabulations 1989/90
5. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1989, Sept 1990

Table 4.8: Distribution of Health Expenditures by Source (percentage), 1996/97

Quintiles	*Government subsidy*					*Household expenditures*			*TOTAL*
	Hospital IP[1]	*Hospital OP*[2]	*DH OP*[2]	*Private IP*[3]	*Private OP*[4]	*Medical supplies & therapeutic equipment*[4]	*Chinese medicine*[4]	*Govt user fees*[5]	
Bottom	63%	14%	7%	6%	8%	0%	1%	1%	100%
2nd	51%	12%	6%	6%	20%	0%	3%	2%	100%
3rd	50%	10%	4%	8%	20%	1%	6%	2%	100%
4th	40%	9%	3%	9%	32%	1%	5%	2%	100%
Top	27%	4%	2%	14%	32%	8%	9%	4%	100%
Total	44%	9%	4%	9%	24%	3%	5%	2%	100%

Sources:
1. GHS Special Topic Survey on Hospitalisations August 1995.
2. GHS Special Topic Survey on Doctor Consultations May- June 1996.
3. GHS Special Topic Survey on Hospitalisations 1995
4. C&SD Average Monthly Health Expenditure per capita tabulations 1994/95
5. C&SD Average Monthly Health Expenditure per capital tabulations Oct 1994, Sept 1995

Figure 4.1: Trends in Incidence of Public Health Subsidies, 1989-96



Notes: Both 1989/90 and 1990/96 figures for public expenditures include only outpatient and inpatient services.

Chapter 5: Comparisons of National Health Expenditures

This section compares health expenditures in Hong Kong with those in other OECD countries.

Table 5.1: Total Health Expenditures as a % of GDP

Country	*1990*	*1995*	*1996*
Australia	8.2	8.6	8.4
Austria	7.1	7.9	7.9
Belgium	7.6	8	7.9
Canada	9.2	9.7	9.2
Czech Republic	5.5	7.9	
Denmark	6.5	6.4	6.4
Finland	8	7.7	7.5
France	8.9	9.9	9.6
Germany	8.2	10.4	10.5
Greece	4.2	5.8	5.9
Hong Kong	4.2	4.5	4.6
Hungary	6.6	7.1	7.9
Iceland	8.0	8.2	4.9
Ireland	6.6	6.4	7.6
Italy	8.1	7.7	
Japan	6.0	7.2	
Korea	3.9	5.3	
Luxembourg	6.6	7	
Mexico	4.9	4.5	
Netherlands	8.3	8.8	8.6
New Zealand	7	7.1	7.2
Norway	7.8	8.0	7.9
Poland	4.4		
Portugal	6.5	8.2	8.2
Spain	6.9	7.6	7.8
Sweden	8.8	7.2	7.7
Switzerland	8.4	9.8	
Turkey	2.5		
UK	6.0	6.9	6.9
USA	12.7	12.7	14.2

Source: OECD Health Data 1996.

Part III: Methods and Data Sources used in Compilation of Health Expenditure Estimates

This section describes the methods and data sources used in compiling the DHA and health expenditure estimates. The conceptual framework used is given elsewhere.

Chapter 1. Estimation of Total Public Health Expenditures

1.1 Government departments

The estimation of public health spending requires a wider definition of health than is defined by expenditures in the policy area for health as historically reported in the government budgetary estimates in two respects. First, a wider range of programmes is considered to be for health purposes than normally included in the boundaries of the policy area for health. Second, public health expenditures are defined more broadly than direct departmental expenditures. For the purpose of the DHA estimates, public health expenditures were defined to include the following components:

1. Direct expenditures by departments to provide health care goods and services.
2. The costs of staff benefits and other compensation for the staff delivering the departmental service concerned, which are not explicitly recorded in the department's annual accounts.
3. The cost of central administrative services provided by other government departments in support of departments directly delivering health care goods and services.

1.1.1 Programme expenditures

The budgetary reports for the year 1996/97 was reviewed and the relevant departments and programmes identified. DOH, HSD, AMS expenditures are entirely health related. Other departments were included following review by HWB as to the appropriateness for their inclusion in DHA's definition of health expenditures. However for several of the other departments that were identified, only a part of each programme contributed to health. In such cases the Working Group on Consultancy Study on Financing of Hong Kong Healthcare System obtained the information required to estimate the proportion of each programme's spending that is attributable to health. In most cases these estimates of proportions were based on information provided by the relevant department or agency.[1]

[1] Further details for each department are provided in the relevant DHA spreadsheet.

Hospital Authority

Data on annual recurrent and capital expenditure were provided by HA for all the years in which it has been in operation.

Medical Schools

Annual financial statements of the two medical schools, the dental school and Hong Kong Polytechnic University were used to estimate spending on medical education and training.

Households contribute to the HA, DOH and medical school revenues in the form of fees. These were deducted from government expenditures by those departments so as to avoid double counting.

1.1.2 Staff on costs

Staff on costs include the costs of pensions, gratuities, government's contributions to death benefit schemes, costs of housing benefits, leave and passage entitlements, education allowances and medical and dental benefits. They were estimated as below:

Staff on-cost = (health related personnel emoluments) x (39.5%)

The 39.5% is the level of overall staff on-costs in the civil service expressed as a percentage of the average staff cost for each rank of officer, also known as the Staff Cost Ready Reckoner (SCRR). The SCRR is estimated by Treasury.

1.1.3 CAO's

There is no established cross charging mechanism among government departments or between government departments and HA. As such it was difficult to estimate the value of services provided to DOH, HA, HSD and HWB, the key health providers, by other departments like Audit and GSD. Central administrative overheads incurred by government departments in providing administrative and support services to DOH, HWB, HA, HSD and SWD were obtained. The health programme related CAO's were then estimated pro-rata according to the budgets for the programmes included in DHA.

1.2 Statutory Funds

As with programme expenditures of government departments, CWRF, Lotteries Fund and Samaritan Fund projects that were seen as having health related objectives were identified. The Working Group on Consultancy Study on Financing of Hong Kong Healthcare System again provided the information necessary to estimate the proportion attributable to health.

1.2.1 Capital Works Reserve Fund (CWRF)

Annual expenditures by CWRF are derived from the annual financial reports maintained by Treasury. These give accumulated expenditures for each project funded by CWRF. The difference between the accumulated expenditures for successive years was taken as the amount.

Chapter 2. Estimation of Private Health Expenditure

Private health expenditure consists of all health expenditures by households, for-profit enterprises, and private non-profit bodies serving households. It is estimated as the sum of several components, each estimated independently using a mix of methods. The components consist of:

1. Household expenditures on private doctors services
2. Employer expenditures through medical benefit schemes
3. Expenditures at private hospitals
4. Household expenditures on user fees at government institutions
5. Household expenditures on other medical goods and services
6. Health expenditures by non-profit organisations

2.1 Household expenditures on private doctors services

These are defined as all expenditures by households and employers to purchase medical goods and services from private practitioners of Western medicine. These goods and services include all services and goods directly provided by such practitioners or by staff employed directly by them. It excludes expenditures for the services of traditional medical practitioners, as well as expenditures for the services of other health providers, such as physiotherapists, occupational therapists, et cetera.

Household expenditures at private doctors' clinics for outpatient services are estimated as the product of the estimated volume of visits to such clinics and the estimated mean price associated with those visits. The steps in the procedure were as follows:

i) The volume of visits to private doctors' clinics is estimated using the survey of doctor consultations included in the General Household Survey (GHS) conducted by C&SD in 1992 and 1996. The GHS survey of doctor consultations provides estimates of the percentage of visits to different types of provider. Administrative data from DOH and HA provide the actual volume of outpatient visits to DOH and HA facilities, and these are combined with the GHS data to yield estimates of the number of visits to private doctors' clinics in 1992 and 1996. For the purpose of this procedure, the number of doctors' visits at DOH clinics was taken as being equivalent to the number of visits for doctor consultation and for dressings and injections.

ii) The mean price associated with such visits was taken as the mean price reported in the GHS.

iii) The first two steps in the procedure yielded two estimates of household expenditures at private doctors' clinics, for 1992 and 1996. These estimates were then deflated to yield two series of estimates for the periods 1989-1995 and 1993-1997 respectively. Total nominal private consumption was used as the index to deflate these expenditures. The choice of index number used for

the deflation is problematic, as there is no reliable index for doctors' charges. A number of possible alternatives were reviewed, including the GDP deflator, nominal GDP per capita, and nominal private consumption per capita. Testing of each of these against the available price data indicated that private consumption per capita was the best predictor of trends in visit prices in previous years.[2]

iv) The two series estimated in this way were not identical, based as they were on surveys in different years. The two were therefore merged in a linear fashion to obtain the final estimate.

The estimated trends in private doctors' revenues were verified using two other data sources and methods:

(i) IMS data on drug purchases by private doctors combined with data from IRD on total profits taxes paid by doctors and dentists were used to estimate doctors revenue, assuming that drug purchases represented a certain share of total costs in private doctors' clinics.

(ii) Expenditures for private doctors' fees as reported in the Household Expenditure Surveys (HES) conducted by C&SD in 1989/90 and 1994/95.

Both these independent estimation procedures yielded estimates significantly less than that derived from the procedure used for DHA, although the trends in expenditures were consistent with the trends estimated. Reasons for the discrepancy include the general unreliability of income reporting in tax returns and known under-reporting of expenditures in the HES.

2.2 Employer expenditures through medical benefit schemes

For-profit enterprises acting in their capacity as employers may provide medical benefits to their employees, including payment for private doctors' visits and hospital admissions. Employer expenditures here are defined as expenditures incurred by employers in excess of any expenditures incurred out-of-pocket by employees utilising such employer benefit schemes.

Data on the extent of employer benefits coverage and expenditures by such schemes are extremely limited. Expenditures by these schemes were estimated as the product of the percentage of the population covered and estimated mean cost per beneficiary of individual schemes. The procedure included the following steps.

i) The percentage of the population covered by employer benefit schemes was estimated from the GHS survey of medical benefit schemes in 1991 and the Harvard University Health Survey in 1998. The two surveys yielded population coverage estimates of 18% and 21% in the two years respectively (this refers to those employees who are entitled to receive medical benefits at the private sector, and excludes civil servants and employees of some quasi-government institutions and their dependants). The extent of

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[2] See Figure 1 in DHA spreadsheet "Private Estimates.xls".

population coverage in intervening years was estimated by simple linear interpolation between the two estimates.

ii) The average cost per beneficiary of employer medical benefits schemes in 1997 was taken as the mid-point of the costs of a small number of large employer schemes in that year, for which data were available. It was assumed that the mid-point estimate was representative of all employer medical benefit schemes.

iii) Estimates of the average cost per beneficiary in such schemes for preceding years was obtained by deflating the estimate obtained in step (ii). The price index used was the annual average cost per beneficiary in the group medical insurance schemes provided by members of the Medical Insurance Association (MIA).

iv) The use of expenditures in these schemes by type of provider was estimated using data available on the use of expenditures by one large employer scheme in 1997.[3] Since no other data were available, this pattern of expenditures was applied to all employer schemes and for the whole period 1989-1997. This yielded estimates of expenditures by these schemes at private doctors for outpatient services, at private doctors for inpatient services, private hospitals, diagnostic facilities/laboratories and other providers.

2.3 Expenditures for inpatient services and at private hospitals

Expenditures at private hospitals consist of expenditures by households and by employers operating medical benefit schemes. These expenditures may be for either inpatient or outpatient services. Expenditures for inpatient services consist both of fees paid to private hospitals and those to attending doctors. Elements in the estimation procedures were as follows.

i) Revenues of private hospitals were estimated using the audited annual financial statements provided by several of them to DOH. These statements were provided on a voluntary basis in response to a request by DOH. This information was used to estimate the average revenue per bed for private hospitals for the period 1989-1997. Total revenues by all private hospitals in the territory were then estimated assuming that the average revenue per bed for the hospitals providing financial statements was representative of all private hospitals. It is expected that these estimates are reliable, since hospitals accounting for more than 60% of all private hospital beds provided financial data.

ii) Household expenditures associated with hospital admissions were estimated as the product of the mean cost per private hospital admission and the total number of private hospital admissions. The mean cost per admission was derived from the Harvard Telephone Survey 1998. The annual number of private hospital admissions was derived from the mandatory data reported to DOH by all private hospitals. As the cost per admission estimate applied to the first quarter of 1998, the estimate of total household expenditures on

[3] Mass Transit Railway Corporation.

admissions was deflated back to calendar year 1997 using private consumption as the index.

iii) Not all household expenditures for inpatient admission are paid to the admitting hospitals. A large proportion is generally paid to the admitting doctor. In the absence of reliable data, a consensus estimate of a group of key informants was used to estimate the percentage of household payments associated with private hospital admission paid to doctors. This estimate of 55% is reasonably consistent with other data reported by some employer benefit schemes on their expenses associated with hospital admission. This estimate of private doctors' fees obtained for 1997 was deflated using the trend in reported private hospital revenue to obtain annual estimates for 1989-1996.

iv) The residual of 45% was assumed to benefit the hospitals. This amount was less than the amount estimated as private hospital revenues using the data from financial statements (<60%). This would be consistent with there being additional revenues from employers and for outpatient clinic services and other procedures/tests.

2.4 Household expenditures on user fees at government institutions

The amounts of user fees for medical services were derived from administrative data obtained from the annual financial reports of DOH and HA. In the case of ex-subvented hospitals pre-1992, for which administrative data were not available, estimates were provided by Hospital Authority.

Added to these household expenditures for the provision of medical services, are expenditures by households associated with payments for teaching at medical schools and private donations to HA and DOH. These expenditures were derived from the annual financial statements of the respective institutions and bodies.

2.5 Household expenditures on other medical goods and services

Household health expenditures for medical goods and services not already estimated by the above estimation procedures were estimated from the results of the C&SD Household Expenditure Surveys conducted in 1989/90 and 1994/95. The commodity groups recorded in the HES and specifically included in the coverage of health spending are given below together with their corresponding commodity code as used in the HES.

	Commodity group	Expenditure coverage
1.	Code?	Regular payments for School medical services
2.	1491	Health food
3.	6143, 6145	Spectacles, Contact lens (Excluding Sunglasses – 6144)
4.	6146	Others (Optical goods & eye-glasses)
5.	7001 - 7013	Foreign medicines
6.	7014 - 7019	Medical supplies
7.	7020 - 7024	Chinese medicines
8.	7025	Therapeutic equipment
9.	9047	Other education service charges
10.	9051	Services of physicians, private doctors charges
11.	9053	Dentist's charges
12.	9054	Herbalist's charges (including bone setters)
13.	9055	Other medical charges (Private)
14.	9057	Private hospital care

Herbal tonic medicines were excluded from category 7 (Chinese medicines) in accordance with the definition of health expenditures developed in the conceptual framework.

Estimates of household expenditure as reported in the HES are known to be low, due to systematic underreporting. To adjust for this underreporting, an analysis was done to compare the unadjusted expenditures as reported by HES 1994/95 for certain expenditure items with independent estimates of those expenditures. Expenditure items, which could be reliably, assessed included payments to Hospital Authority, purchases of medicines from pharmacies and retail outlets, private hospital charges and doctors fees. Based on a review of this analysis by the analysts, HWB and C&SD, a consensus estimate was arrived at as the level of underreporting in the HES. This estimated adjustment factor was then applied to the HES estimates to obtain final estimates of household expenditures for those estimates for which there were no other reliable data.

2.6 Health expenditures by private non-profit bodies

Estimates of health expenditures by private non-profit bodies are based on two sources of data. For those organisations which receive subventions from government departments, agencies and funds (principally DOH and SWD), accurate information is available on the amount of subventions in government budgetary records. For other organisations and expenditures funded by sources other than subventions, these estimates have relied on analysis of the annual financial statements of a selected number of non-profit bodies, in the absence of any comprehensive survey of non-profit bodies in the SAR.

The larger non-profit bodies involved in either funding or providing health care services were identified using best judgement, and annual financial statements were requested from these. The bodies surveyed included purely funding agencies, such as Jockey Club and the Chinese Cemeteries Fund, associations such as the Family Planning Association, and direct providers such as Caritas.

The information available in the financial statements on sources of funds and uses of expenditures was carefully examined to match known funding provided by the government and other major funding agencies (e.g., Jockey Club) with the receipts of non-profit providers. Having done this, it was possible using best judgement to estimate: (i) the approximate volume of funding received by non-profit providers in the form of user fees and donations from other funding agencies for which budgetary records were not available, plus (ii) the proportion of government subventions and donations by non-profit funding agencies accruing to non-profit providers, for whom financial statements were not available. Combining both estimates, an estimation, albeit necessarily imprecise, was made as to the total volume of expenditures by non-profit bodies not funded from households or by known funding agencies. This estimate for 1997 was deflated using private consumption to previous years, 1989-1996, having first deducted Jockey Club expenditures for which good data are available. Jockey Club expenditures are included using actual data.

Chapter 3. Estimation of Functional Breakdowns

Using the functional classification of expenditures presented in the conceptual framework, all expenditures, both public and private, have been classified according to their functional purpose. The extent to which this was feasible was dependent on the availability of information to both identify the purpose of expenditures, as well as disaggregate when expenditures were for multiple objectives. In many cases, it was not possible to disaggregate expenditures beyond the first level of disaggregation. For this reason, only summary breakdowns are presented here, although more detailed breakdowns are available for some expenditures. In general, the functional breakdown of public sector expenditures is more reliable and more detailed that that for private expenditures.

DOH and HA provided the functional breakdowns of their annual expenditures. In the case of all of the other government departments, medical schools and statutory funds, detailed descriptions of their programmes were used to obtain functional breakdowns of total expenditures. In some cases, departmental informants have made an assessment of the purpose of expenditures.

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Appendix A: Listing of providers

Table A1: Provider classification codes used in Hong Kong DHA

1)Government of Hong Kong		
	10100	HWB
	10200	DOH
	10300	HA
	10400	Auxiliary Medical Services
	10500	Fire Services Department
	10600	Hospital Services Department
	10700	Agriculture and Fisheries Department
	10800	Architectural Services Department
	10900	Audit Commission
	11000	Civil Service Training and Development Institute
	11100	Department of Justice
	11200	EMSD
	11300	Environmental Protection Department
	11400	General expenses of the civil service
	11500	Government flying Services
	11600	Government Laboratory
	11700	Government Land and Transport Agency
	11800	Government Property Agency
	11900	GS: Civil Services Bureau
	12000	GS: Education and Manpower Branch
	12100	GS: Finance Bureau
	12200	GS: Home Affairs Bureau
	12300	GS: Officers of the Chief Secretary
	12400	GS: Planning, Environment and Lands Bureau and Works Bureau
	12500	Government Supplies Department
	12600	Information Services Department
	12700	Information Technology Services Department
	12800	Labour Department
	12900	Management Services Agency
	13000	Miscellaneous Services
	13100	Social Welfare Department
	13200	Standing Commission on civil service salaries and conditions of services
	13300	Subventions: Miscellaneous
	13400	Subventions: Non- Departmental Public Bodies
	13500	Treasury
	13600	Water Supplies Department
2)Academic and training institutions		
	20100	Medical schools
	20101	Chinese University of Hong Kong Medical School
	20102	University of Hong Kong Faculty of Medicine
	20200	Dental schools
	20201	Prince Philip Dental Hospital
	20202	University of Hong Kong Faculty of Dentistry
	20300	Other schools
	20301	Hong Kong Polytechnic University
3) Non-profit institutions		
	30100	Non-profit hospitals
	30101	Canossa Hospital
	30102	Hong Kong Adventist Hospital
	30103	Hong Kong Central Hospital
	30104	Hong Kong Sanitarium & Hospital
	30105	Matilda and War Memorial Hospital
	30106	St. Paul's Hospital
	30107	Evangel Hospital
	30108	Hong Kong Baptist Hospital
	30109	Precious Blood Hospital
	30110	St. Teresa's Hospital
	30111	Tsuen Wan Adventist Hospital
	30112	Hong Kong Renal Center
	30113	Wan Chai Nursing Home
	30114	Lock Tao Christian Association Nursing Home
	30115	Ma Tau Chau Nursing Home
	30116	Home of Living Faithfulness
	30117	Shek Kwu Chau Treatment & Rehabilitation Centre
	30118	Sister Acquinas Memorial Women's Treatment Centre
	30119	Au Shue Hung Health Center
	30120	Tung Wah Group of hospitals

	30200	Non-profit ambulatory facilities
	30201	Pacific Dialysis Center
	30302	Tung Wah Herbalist Clinics
	30300	Non-profit voluntary agencies
	30301	Miscellaneous
	30302	ACAN
	30303	Caritas Hong Kong
	30304	COSH
	30305	Family Planning Association of Hong Kong
	30306	Hong Kong Christian Service
	30307	Hong Kong Red Cross
	30308	SARDA
	30309	School Medical Services
	30310	St. John's Council for Hong Kong
4) Enterprise own services		
	40000	Enterprise own services
5) For profit providers		
	51000	Private modern medical providers
	51100	For-profit hospitals
	51101	Union Hospital
	51200	For-profit ambulatory facilities
	51300	Private specialists
	51400	Private general practitioners
	51500	Private dental providers
	51600	Diagnostic/imaging services
	52000	Private TCM practitioners
	53000	Drug retail outlets
	53100	Pharmacies
	53200	Shops
	53300	TCM stores
5) Foreign providers		

Appendix B: GDP deflator and population

Fiscal year GDP deflator derived by taking 75% of the value of the index of the first year and 25% of the following year.

Table B1: GDP deflator and population

Fiscal year	*GDP deflator (1990 = 100)*	*Mid-year population*
1989/90	94.75	5.686
1990/91	102.3	5.705
1991/92	111.9	5.752
1992/93	122.3	5.801
1993/94	132.3	5.901
1994/95	139.9	6.035
1995/96	144.4	6.156
1996/97	152.4	6.311

Source: GDP deflator derived from Estimates of Gross Domestic Product 1961 to 1997 - Hong Kong, The 1998/99 Budget. Mid-year population from Census and Statistics Department.

Appendix C: DHA Flow of Funds Matrices

Figure C1: Hong Kong Domestic Health Accounts: Sources/intermediaries to Providers

(Attached to report)

Figure C2: Hong Kong Domestic Health Accounts: Sources to Intermediaries

(Attached to report)

Appendix D: Comparison of previous estimates of health spending with DHA estimates

Table D1: Domestic Health Expenditures at current market prices, 1989/90 – 1996/97

HK $ millions

	Previous estimate			*DHA estimates*		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
1989/90	$7,310	$10,505	$17,815	$9,057	$10,984	$20,041
1990/91	$9,290	$12,557	$21,847	$11,772	$12,611	$24,383
1991/92	$10,750	$14,865	$25,615	$13,968	$14,672	$28,640
1992/93	$13,640	$17,619	$31,259	$16,045	$16,820	$32,865
1993/94	$18,640	$20,663	$39,303	$19,146	$18,664	$37,810
1994/95	$19,320	$26,038	$45,358	$22,186	$21,238	$43,424
1995/96	$24,280	$31,100	$55,380	$25,824	$23,705	$49,529
1996/97	$25,160	$35,014	$60,174	$30,218	$26,028	$56,246

Notes: Previous public estimates obtained from budget speeches 1994/95 – 1998/99 and private estimates from Census and Statistics Department.

Table D2: Domestic Health Expenditures as a % of GDP, 1989/90 – 1996/97

	Previous estimate			*DHA estimates*		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
1989/90	1.4%	2.0%	3.3%	1.7%	2.0%	3.7%
1990/91	1.5%	2.1%	3.6%	1.9%	2.1%	4.0%
1991/92	1.5%	2.1%	3.7%	2.0%	2.1%	4.1%
1992/93	1.7%	2.2%	3.9%	2.0%	2.1%	4.1%
1993/94	2.0%	2.2%	4.2%	2.1%	2.0%	4.1%
1994/95	1.9%	2.5%	4.4%	2.2%	2.1%	4.2%
1995/96	2.2%	2.8%	5.0%	2.3%	2.1%	4.5%
1996/97	2.1%	2.9%	4.9%	2.5%	2.1%	4.6%

Notes: Previous public estimates obtained from budget speeches 1994/95 – 1998/99 and private estimates from Census and Statistics Department.

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