CHAPTER 2

LITERATURE REVIEW

This chapter examines literature on budget allocation under the PoW and the subject of equity.

2. 1 Problem of resource allocation

Over the years, patterns of health spending are not cost effective. In other words, the relative amount spent on health inputs is inconsistent with sectoral goals. For example the concentration of health spending on hospitals in urban areas (Bonsu et al. 2001; Barnum and Kutin 1993). This has a detrimental effect on equity and in addition, to be inefficient because this pattern of allocation leaves rural facilities relatively staved of inputs. Consequently, the highest costs of access to services of acceptable quality are those facing most remote population group.

2. 2. Health policy

In 1984 Ghana started economic reforms under Structural Adjustment Reforms Programme to savage its ailing economy. The aim was to restructure all sectors to improve performance to accelerate economic growth and development. Under the economic reforms, Ghana's Vision 2020 was developed which aimed at making Ghana a middle-income country by the year 2020. The wealth of people of Ghana was seen as closely related to its health, and therefore as part of the major reforms, MoH embarked on Health Sector Reforms (HSR) in the mid 1980s with goals which were consistent with the broad goal of "Health for All" strategy (WHO1978).

- To obtain greater equity by improving the access of disadvantaged group to quality of care;
- To obtain greater value for money (cost effectiveness) from health spending, considering improvement in both the distribution of resources to priority activities (allocation efficiency) and management and resources that have been allocated (technical efficiency)
- To improve health status and consumer satisfaction by increasing the effectiveness and quality of services.

To achieve these national goals the first programme of work was develop with the following objectives to address the problem of health inequalities in terms of access, utilization, urban- rural locations, promotion of primary health care and above all improve health outcomes through the allocation of resources.

- To increase geographical and financial access to basic health services to all people living in Ghana.
- To provide better quality of care in all health care facilities and all outreach centers.
- To improve efficiency at all levels of the health care system.
- To foster closer collaboration and partnership between the public sector and communities, other sectors, non-governmental organizations, private healthcare provider and other interested groups.
- To increase the overall resources and ensure equitable and efficient distribution of resources in the health sector.

While the are clearly many determinants of health, targeted resource flows arguably have a substantial part to play in improving health, reducing inequalities and ensuring access to service by the poor. The aims is to improve the health status of all people living in Ghana to enable them to participate actively in economic activities to accelerate growth to

achieve the national developmental vision of becoming a middle income by 2020 and also address the myriad problems bedeviling the health sector.

Like many nations the health care system is publicly financed, allocation of resources to regional and sub regional levels (e.g. hospital and primary care facilities) were incremental financing decision which build on historical situations that bears no relation to any particular allocation formula or population health needs. With the introduction of the economic reforms in general and the health sector reforms in particular, the environment for health resources allocation has under gone fundamental changes which will inevitably affect the development of the health care.

2.3. Budget process

Government and donors mainly fund the health sector in Ghana. Ministry of Finance is the main fundraiser for government. Donors include Danish Development Agency (DANIDA), Department for International Development (DIFID), The Dutch Government, The World Bank and Japanese International Agency for Corporation. Government annual budget allocation to the health sector covers the full cost of all health institutions and health-related organisations. Full cost means government pays for all expenditure incurred by all health institutions (i.e. item 1 personnel emolument, item 2 administrative expenses, item 3 service expenses, and item 4 investment expenses). Revenue generating institutions like hospitals reports their internally generated funds (IGF) to the government through MoH, but keeps it to improve their services

The budget process begins around July for the next financial (equivalent to calendar) year (Ministry of Health 2000). Revisions to the criteria for allocating resources between

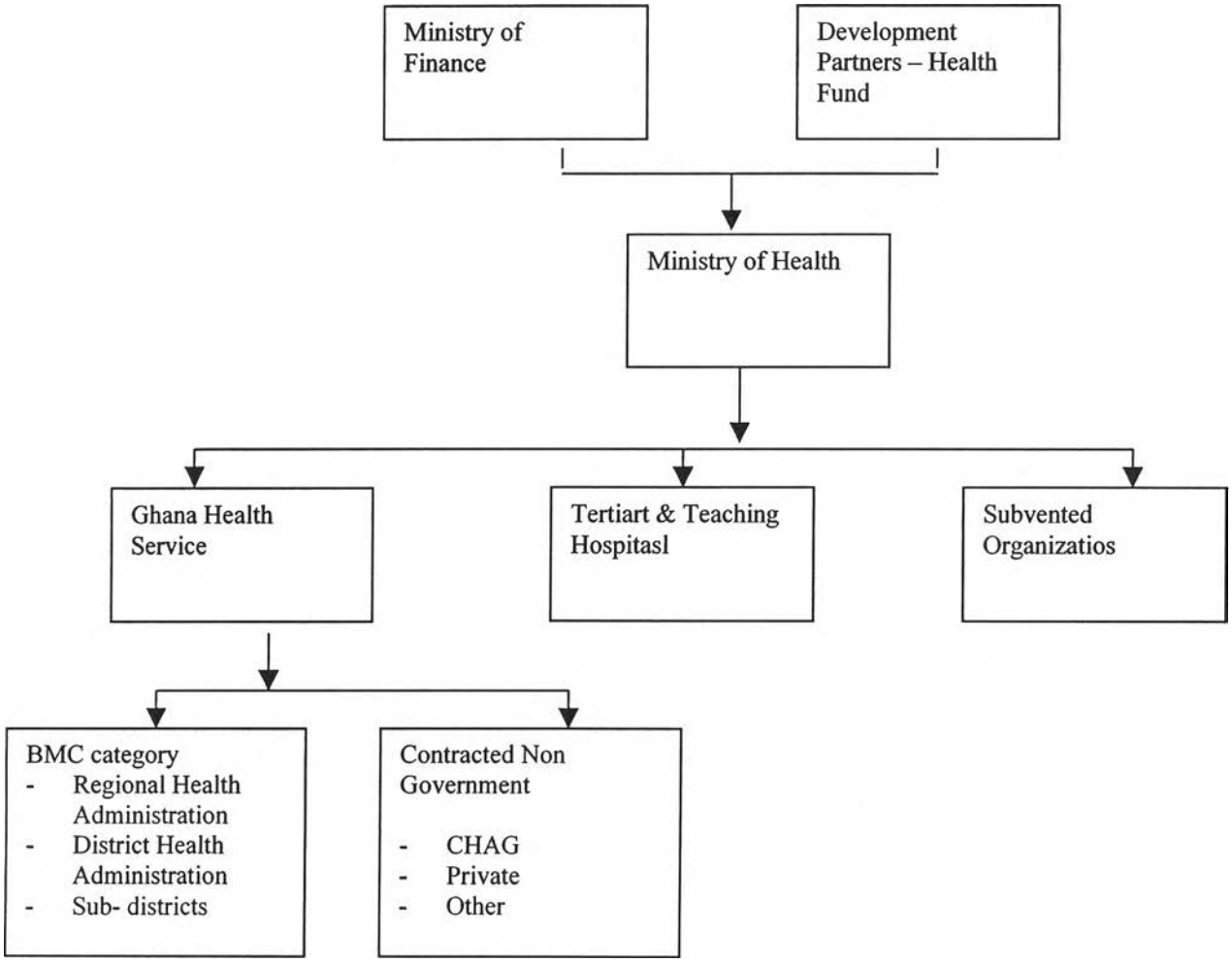
regions and districts are undertaken at this time. The overall sector share is usually known between June and August and regional and district allocations are announced between August and October. The budget process (resource allocation) in the health sector has four stages.

i. Sector share

The first stage is the determination of the sector share. This is largely a decision of the Ministry of Finance although sector ministries are also involved in the negotiation. Recommendations of the committee responsible for the poverty reduction strategy under the auspices of National Development Planning Commission (NDPC) are also important now that government is determine to fight poverty than ever under the government poverty reduction programme initiative. This process is at national level where all sector budgets are determined. Ceilings for the various line items to all sectors are determine by Ministry of Finance (MoF), but allocations to sector Budget Management Centres (BMCs) is done internally according to the sector's allocation method.

The budget is now divided into four lines: personal emoluments, administrative (utilities, maintenance etc.), service costs (food, medicines etc.) and investment or infrastructure costs (including large renovations). The Ministry of Finance maintains control over these line items in different ways. Line one items are determined by number of staff at post linked to public service (civil service) pay scales. Spending on specific administration and service costs is not now controlled by the Ministry of Finance. The same is true for investments. The Ministry of Finance must, however, approve of any offer for loans for infrastructure projects (soft or commercial). In principle this applies to grant funding although in practice this may not always happen.

Figure 2.1. The structure of resource flow in the health sector



ii. Broad Intra-sector allocations

The next stage is the way in which the health sector budget is divided up among the main sub-sectors below the Ministry of Health consisting of Ghana Health Services (GHS), Teaching Hospitals and Subvented Organizations. GHS is the main service provider of the MoH. GES consist of regional and district levels. Ministry of Health determines the non-wage recurrent allocations to BMC under it, based on historic patterns and current policy objectives. Regional BMC consists of - Office of the Regional Director, Regional Health Administration, Regional Public Health Unit, Regional Clinical Care Unit, Training Institutions, Regional Hospitals, District Health Administrations, and District Hospitals. Each of these units receive their own budget, which is transfer direct to a local account, for items two and three which they manage themselves.

iii. Regional allocations

The Ministry of Health has developed a resource allocation formula for allocating items two (administration) and four (service). This formula is regularly modified and is the product of considerable consultation with regional authorities and facilities. Factors include fixed costs of administration, distance to capital, density, population, facility size (in beds) and infant mortality rate. The factors used for specific BMCs are listed in table 2.1.

Table 2. 1: Factors used in the allocation of funding to regions

Budget Management Centres	Factors used for allocating funding between regions
Office of Regional Director	40% equally between regions 30% according to number of districts 20% according to size (square kilometres) of region 10% according to distance of regional capital to Accra
Regional Health Administration	40% shared equally between regions 30% according to number of districts 20% according to size of region 10% according to distance of regional capital from Accra
Regional Public Health Units	50% shared equally 25% according to Infant Mortality Rate 25% according to population
Regional Clinical Care Unit	40% evenly distributed 60% size of region
Training institutions	30% evenly distributed 70% according to student population
Regional hospital	30% evenly distributed 70% according to number of beds
District Health Administration	30% evenly distributed 70% according to number of districts
District Hospitals	30% evenly distributed 70% according to number of beds
Sub Districts	100% according to population of region

Source: (Ministry of Health 2000)

These variables are only used in the allocation of items two and three. Personnel spending (item one) is allocated according to staff positions in each region and is linked to civil service pay scales. Further, the allocations encompass the donor-pooled funds. It must be noted that investment is allocated directly to regions but are generally subjected to political pressure which may not reflect population needs. On the other hand it may appear on a region's budget but it may not be able to access throughout the fiscal year.

iv. District & Sub-district allocation

It is largely up to regions to decide how finances should be divided between BMCs within any of the major budget categories. Regions develop their own formulae by holding regular consultations with districts. As an example, the criteria used to divide up funds between districts in Greater Accra include conditions of infrastructure, population served, levels of IGF, capability to respond to emergencies and impact of spending (results). The last two are interesting since they respond to a frequent criticism of resource allocation formulae that they do not take sufficient account of ability to utilise funding. Since 1999 the budget for lines two and three have been allocated directly to individual BMCs to manage.

Decentralisation of funds to BMCs mean that while regions determine the methods for allocating funding to individual district hospitals and sub-district facilities, funds are transferred directly from headquarters to individual BMCs. While this give much more local flexibility to institutions, it has also led to a number of problems. For example regions can no longer carry out activities that are more economical to organise at regional level, such as in-service training for new senior staff such as nurses. Another problem of concern is maintenance of buildings and allocation of investment budget. The direct allocations to individual BMCs makes it difficult for regions to control and coordinate.

2.4. Allocative equity of health resources

Within most societies there exist, in some form or another concern that health care resources and benefits should be distributed in some fair or just way. Donaldson and Gerard quoting McLachlan and Maynard (1982) have gone as far as to suggest this concern is of utmost importance: 'the vast majority [of people]... would elect for equity to be a prime consideration [of a health services].' The guiding principles of every health care policy or system give an indication of the relative concern for equity. Achieving equity is a goal pursued by policy –makers across spectrum of nations. Implementing the principles of equity into health care programme has been fraught with practical difficulties including lack of resources. There is much disagreement among academics and policy –makers over the meaning of equity. Not everyone takes the view that equity is about equality. The issues of equity in health care leaves open the question of precisely what form it should does take. Many suggestion have been made such as equal expenditure for equal need, equal access for equal needs, equal utilization, equal health etc. Usually the concern for equity is interpreted generally as providing a basic level of health services to all or equal access for equal need is most favoured, essentially the principles of equal opportunity. Despite the differences, equity over the years has been in the centre of health care needs.

There are two kinds of equity; Horizontal and vertical equity. Vertical equity involves the unequal treatment of unequal needs; e.g. unequal treatment for of those with treatable trivial versus serious conditions. Horizontal equity is defined in terms of the extent to which those of equal ability to pay actually making equal payments, regardless of, for example, gender, marital status, occupation, and place of residence (Hsiao 2000). In practice this implies that the differential risk of illness among different groups should be considered when designing financing schemes. Equal treatment of equals, equal access for equal need e.g. equal waiting time for patient with similar conditions. While in principle there are no difficulties with these concepts, in practice there can be. Perhaps horizontal equity is simpler to handle because recognizing equality both of treatment and conditions is easier. Vertical equity on the other hand entails not only measurement in

inequality in conditions, but also how unequal the treatment response should be. In principles, unequal treatment of unequals is a sensible concept in the context of health care delivery, but it is however difficulty to put into operation. It is much more problematic to measure and appropriately interpret and less informative than horizontal equity.

In recent times, many countries have re-oriented their resource allocation to make the system more responsive to the population needs. United Kingdom, Canada and Australia are good examples. This method of allocation needs more accurate population data. The population main health needs indicators such as age, cost unemployment, income and access are adjusted on regional population to improve allocative equity. The weight given to the variables depends on the health policy of the nation.

In England, the budget formula developed by the Resource Allocation working Party (RAWP) 1976 (Department of Health and social Seccurity1976) was used to determine the allocation of the hospital and community health services (HCCS) budget from 1976 to 1990. The RAWP has seen a number of modifications from 1990 to 1996 when a team from University of York devised a new formula based on the RAWP but uses very much sophisticated statistical technique. In 1981 Maynard and Ludbrook adapted the method of RAWP in order to compare health resource allocation between England, France and the Netherlands.

Laoratthanasai, (1995) used the PAWP method to develop a budget for the provincial health Departments in Thailand using the population, mortality rates, average income, non- budget, out patient visits, number of admissions and number of hospital beds.

It has been argued that the first element of any equitable distribution formula is the population. Resources at the most simple level should be allocated to regions and districts on the basis of their population. Such allocation formula needs good population data and this often not readily available, in accurate and up- to -date form especially in developing countries. However the use of such formula sharpens the challenge for collection of good data, and lead to falsification of population returns to enhance resources. (World Bank, 1998).

Sen (1972) discussed a number of measures of inequalities their strength and weakness. One of these measures is the range, which is defined as the gap between highest and lowest income levels as a ratio of mean income.

$E = (\text{Max } Yi - \text{Min}Yi) / \mu$

The weakness of this measure is that it ignores the distribution and not merely at the extreme values. It is also insensitive to transfer from a poor person to a rich person as long as both lie on the same side of the mean income and therefore fail to catch the commonly accepted ideas on inequality.

In other to deal with this problem the concept of Gini Coefficient was suggested. Gini Coefficient is generally used to measure the inequality of income among population. It can be applied to measure the variation of health resources distribution between different population group.

van Doorslaer and Wagstaff (1992) define equity with the following equations.

$m1 = \alpha\rho + \beta\rho\ hi$ if poor (a)

$m1 = \alpha r + \beta r\ hi$ if rich (b)

In this equation m is the medical expenditure, $\alpha\rho$ and αr are constant expenditure when healthy for the poor and the rich respectively, $\beta\rho$ and βr are constant coefficients of health status *h*i is equal to 0 when the person is healthy and 1 when sick. (Random error term is omitted depicting the minor characteristics of individuals that affect medical expenditure irrespective of need. According to the authors horizontal equity occurs when $\alpha\rho = \alpha r$ and $\beta\rho = \beta r$, that is when the expected average spending of the rich and poor are equal, both when well ($hi = 0$) and when sick ($hi = 1$).

To generate a measure of the degree of inequality, the authors calculated the standardized expenditure share, based on the equations above, which are the group share of the total expenditure reflecting on their spending. They concluded that if spending favours the poor the curve would lie below the diagonal line (normal distribution line), and the greater the departure of the Lorenz curve from the diagonal line, the lager the value of the Gini coefficient (degree of inequality).

Pornchaiwiseskul (1993) conducted a study on how well from the economic point of view of efficiency and equity of malaria control resources have been allocated over time, among districts between prevention and surveillance measures in Thailand. He concluded that, to obtain overall efficiency malaria control resources must be optimally spent between preventative measures and surveillance measures, optimally allocated and distributed between districts and over time