Health services: a review and remedial strategies

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This paper analyses the difficulties faced by Papua New Guinea's health care system in the past 10 years, and proposes a package of reforms and policy initiatives. The approach taken contrasts current health delivery arrangements with the system operating in the late 1970s, arguing that recovery and advance in the health sector will require significant expenditure reallocations; new efforts to foster decentralisation; the conversion of the National Department of Health into an agency that negotiates global budget transfers to provinces and monitors performance; a new partnership with church-run health services; and the elimination of entry barriers and adoption of proactive measures to foster private provision of health services.

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Papua New Guinea was the scene of pioneering developments in the health sector in the two decades prior to independence in 1975. Its primary health care system was a forerunner of the type of health delivery arrangements now being established, usually with donor support, in other low-income economies. Striking health gains were recorded while this system was in place. But the advances have not been carried further. Indeed, the country has experienced a decade or more of eroding—and recently, sharply deteriorating—health services. Central and provincial health officials and donor agencies are well aware of this worrisome picture. But the remedies that are being used are inadequate, inappropriate and inconsistent, and do not respond to a failed set of policies.

The health system in the late 1970s

Papua New Guinea's health accomplishments through the late 1970s were considerable (McDevitt 1991; Stanhope 1970). The infant mortality rate, a generally reliable indicator of overall health conditions, had fallen to an estimated 200 deaths per 1,000 live births by the late 1950s (from a post-World War II high of 300 to 500 deaths per 1,000 live births in many areas). Successive censuses revealed that the rate continued to fall to an estimated 161 deaths per 1,000 live births

in the mid-1960s, to 134 in the late 1960s, to 72 in the 1975–79 interval. These findings are corroborated by what is known about the incidence of particular diseases. In the 1940s the epidemiological pattern was dominated by infectious diseases of early childhood, resulting from and contributing to underlying protein-energy and micronutrient malnutrition. This disease profile remained largely unchanged through the late 1970s. But a significant drop was detected in fatality rates, especially for the major infectious diseases (pneumonia, diaorrhea and malaria), for which effective treatment and community action became available.

Several features of the health care system stood out.

- The mix and quality of health services were consistent with needs and conditions.
- Local communities were involved in health care provision.
- Hospitals operated not only as referral units, but also as resource centres and base points for supervision and training.
- Managerial and supervisory responsibility rested with a provincial official, who had autonomy and authority over staff.
- Strains on the public system were reduced by church-run facilities (World Bank 1965; Bell 1973).

Current problems and contributing factors

The health advances achieved by or immediately after independence have not been sustained or carried further in the past 10 years. Indeed, there are many indications, especially with respect to coverage and related process variables, that health status and the effectiveness of the health service system have eroded substantially.

Indicators of the problems

The proposition that a once-rapid decline in the infant mortality rate has stalled or even begun to reverse is consistent with disease indicators and health service statistics. Papua New Guinea's nutritional indicators are among the worst in the Pacific region. An upward trend in sickness and death from lifestyle-related illnesses has continued. Sexually transmitted diseases and AIDS are emerging as significant health problems, while the incidence of heart disease, diabetes and hypertension has risen significantly in the past decade.

Childhood diseases are attributable to deteriorating services, as evidenced by decreases in immunisation coverage and reductions in the number of clinic visits by young children. World Bank mission findings, recent studies (Thomason 1993), and anecdotal accounts shed further light on the erosion of service coverage and effectiveness.

- Supervisory arrangements and practices are in disarray.
- Facilities and equipment have deteriorated.
- Treatment practices often are erroneous.
- Staff often are tardy or absent from duty, and lack discipline and commitment to treatment.
- There are specific problems in the country's hospitals.
- The health information system is working poorly.

Favourable developments

Some disruption of health services was probably unavoidable during the transition from colonial rule in the late 1970s and early 1980s. Emerging law and order problems also probably inhibited both service providers and potential clients. The

departure during a five to seven year period of many of the expatriates who occupied key health management and service delivery positions made the inherited arrangements unsustainable.

But these unsettling changes should have been offset by a number of positive developments in the 1980s and early 1990s. First, the number of aid posts and health centres and subcentres continued to grow, as did the bed capacity of the health facilities (Lieberman and Heywood 1995). The number of doctors, nurses and extension officers increased as well. Also of significance was a 1986 decision that began to replace aid post orderlies, hospital orderlies and nurse aides, many of whom had been employed since the 1950s, within a single, multipurpose category, the community health worker (CHW). Higher entry standards were set for this new cadre. Unlike the often minimally schooled hospital and aid post orderlies, CHWs are expected to have completed tenth grade. In addition, they are provided with more extensive and sophisticated training than their predecessors. A two-year course prepares CHWs for the many tasks arising in general outpatient and maternal and child health clinics, routine obstetric cases, and sample nursing assignments in aid posts and health centres and subcentres. By 1993 an estimated 1,655 CHWs had completed formal training requirements and entered public service, bringing new skills and a youthful outlook to a health force rapidly aging (Table 1).

The enhancement of capacity and skills was made possible by the sustained allocation of substantial funds to health. Many of the observed problems are typical of health systems that have been receiving small and declining allocations. This has not been the case in Papua New Guinea. Actual per capita outlays in the 1990s were higher than in the mid-1970s and only slightly below the average for the mid-1980s. Health expenditures have also continued to capture a sizable share of overall government funds, accounting for more than 8 per cent of total public outlays in most years since the mid-1970s (Table 2). At an estimated US$26.90 per person in 1990, government health outlays were much larger than in Indonesia (US$4.20) and the Philippines (US$7), two neighbouring countries whose mean per capita incomes are somewhat below the estimated average for Papua New Guinea. In short, health expenditure levels in Papua New Guinea are and have remained high, viewed alternatively from temporal, cross-sectoral and cross-country perspectives.

The figures cited above refer only to central government outlays in support of different national, delegated and transferred health functions. What is not included in the health outlays shown in Table 2 are expenditures decided on and allocated by provincial governments, drawing on funds directly under their control. These resources include fees, commercial income, and tax revenues generated and controlled locally, as well as various unconditional grants and special transfers provided by the central government.

Levels of provincial spending on health vary widely. At one end of the spectrum is Morobe, a financially autonomous province which also has substantial revenues from fees, local taxes and other sources. At roughly 7 kina (US$7.42) per capita in 1993, provincial spending in Morobe accounted for 21 per cent of all health outlays and exceeded that allocated by the central government for transferred and delegated functions (Lieberman and Heywood 1995). By contrast, provincial expenditures comprised 7 per cent or less of overall health spending in Gulf (1.6 kina per capita) and Western Highlands (1.3 kina per capita).

Health spending totals derived from central outlays and transfers, although substantial, underestimate total expenditures by 10 per cent or more. Including provincial outlays in spending

Table 1 **Number of health facilities, beds and staff, 1973–90**

	1973	1979	1985	1990
Facilities				
Hospitals	29	20	19	19
Health centres	137	161	190	191
Subcentres	198	209	270	294
Aid posts	1,547	1,916	2,231	2,290
Beds				
Hospitals	4,358	4,170	4,478	4,767
Health centres	6,599[a]	6,293	6,875	7,516
Subcentres	n.a.	2,234	2,231	3,166
Total	10,957	12,697	13,584	15,449
Health workers				
Doctors				
Government	165	159	205	260
Church-employed	27	18	22	19[b]
Nurse officers				
Government	909	1,198	1,822	2,447
Church-employed	640	483	641	707[b]
Health extension officers				
Government	180	196	294	320
Church-employed	8	1	7	10
Aid post orderlies/community health workers				
Government	1,383	1,718	1,999	1,344
Church-employed	164	125	109	..
Nurse aides				
Government	850	1,234	1,404	..
Church-employed	170	313	574	697
Hospital orderlies				
Government	1,560	1,148	764	1,184
Church-employed	154	75	..	..

[a] Includes subcentres
[b] 1989
Source: Papua New Guinea, Department of Health, various years.

totals would increase real per capita spending to well over US$30 in the early 1990s, further reinforcing the country's outlier position in cross-country comparisons.

What accounts for the deterioration in services?

Compared with the late 1970s, the current health sector features expanded facility coverage and capacity, a larger and better trained workforce and continuing high levels of public spending. So what accounts for the deterioration in services? The answer lies in the difficulties encountered in operating a health system that has not only grown in size and complexity, but that has also lost much of its flexibility and sensitivity to local conditions.

Personnel expenses

Some of the persistent management and supervision problems arise from a lack of recurrent funds for operational purposes. This has been due primarily to increases in personnel expenses since the mid-1980s, in a context of negligible real growth in health

spending. At the provincial level, the share of labour-related expenditures within recurrent funds transferred from the centre varied between 68 per cent and 93 per cent in 1992 (Lieberman and Heywood 1995). As a group, provinces allocated 80 per cent of the recurrent resources received to salaries, wages and related items. This figure was well above the 68 per cent reported for 1977 and the 71 per cent recorded in 1986 (Thomason and Newbrander 1991). Also noteworthy is the high share of personnel outlays spent on salaries. Eighty-two per cent of labour outlays from centrally transferred funds were allocated to salaries, which comprised a fixed and inflexible component of the budget. In Enga Province this figure was 91 per cent.

The shortfall in operational funds has been felt through the health system in a number of ways.

- Supervision of aid posts from health centres has decreased in frequency and regularity.
- The morale and performance of the community health workers has been affected.
- Services at health centres and subcentres have declined and many patients have chosen to travel directly to the nearest hospital, resulting in considerable underutilisation of health centre beds, equipment and staff.
- The role of hospitals in provincial health systems has narrowed to that of treating uncomplicated, self-referral cases, often on an outpatient basis.
- Links with church-run networks have deteriorated, and an opportunity has been lost for joint government–church planning and coordinated delivery of services.

Who is accountable for health?

Recurrent operational problems also stem from the country's idiosyncratic and ineffective allocation of budgetary, personnel and management responsibilities in health. In this regard, the country provides an example of contested and aborted decentralisation, where there is no

Table 2 **Government health expenditures, 1975–94**

	1975	(1990 prices)	1984	(1990 prices)	1994	(1990 prices)
Health expenditures (million kina)	26.60	(52.61)	80.90	(93.60)	152.80	(138.63)
Total expenditures (million kina)	369.80	(731.43)	921.80	(1066.54)	1536.30	(1393.87)
Per capita health expenditures (kina)	10.08	(19.94)	24.20	(28.00)	37.66	(35.78)
Per capita health expenditures, 1990s ($US)		(20.87)		(29.31)		(35.78)
Health as per cent of total budget	7.19		8.78		9.95	
Health as per cent of GDP	2.90		3.50		2.70	

Note: Figures for 1994 are budget estimates. Provincial government expenditures are not included.
Sources: Papua New Guinea, Department of Health; International Monetary Fund, 1992. *International Financial Statistics*, International Monetary Fund, Washington, DC.

consensus on the roles of provincial stakeholders and the various central agencies involved directly or indirectly in health matters.

The role of different levels of government remains uncertain. The current scene is characterised by a multiplicity of actors—the National Departments of Health (NDOH), the Department of Finance and Planning (DFP) and the Department of Personnel Management (DPM)—in the centre, and in the provinces, the Provincial Department of Health (PDOH) and provincial hospitals. Each of these 'players' has a partial mandate and point of view, but is capable of impeding service delivery through its own decisions and actions.

Despite much rhetoric about decentralisation, the central government controls resource allocation in the sector. However, within the centre NDOH is excluded from provincial budget discussions, with DFP playing the key role (but operating without a global view). NDOH is also not extensively involved in staffing and personnel-related matters—DPM is far more influential.

At the provincial level, the situation is also unsatisfactory. The authority of most PDOHs has been eroded due to directives from Port Moresby and developments at the provincial government level. Supervision and management of peripheral facilities have deteriorated and field staff are unsure as to whom they are accountable. Hospitals have been

Table 3 **Health spending in four provinces, 1993**

	Central transfers				
	National functions	Transferred functions	Delegated functions	Provincially funded	Total
Morobe province					
Personnel	4,414,000	1,066,199	510,858	2,345,863	8,336,920
Operations	3,969,663	-	723,320	650,012	5,342,995
Total	8,383,663	1,066,199	1,234,178	2,995,875	13,679,915
Central province and National Capital District					
Personnel	7,814,287	-	1,195,085	551,300	9,560,672
Operations	4,780,406	-	321,936	195,000	5,297,342
Total	12,594,693	-	1,517,021	746,300	14,858,014
Western Highlands province					
Personnel	-	-	4,110,995	210,141	4,321,136
Operations	-	-	1,407,269	227,227	1,634,496
Total	-	-	5,518,264	437,368	5,955,632
Gulf province					
Personnel	-	-	2,131,277	52,139	2,183,416
Operations	-	-	449,731	77,568	527,299
Total	-	-	2,581,008	129,707	2,710,715

Note: National functions include supply of pharmaceuticals and medical equipment to all facilities, training, technical support and the operation of major hospitals. Delegated functions are funded and administered through the national departments located in each province, and include malaria control, rural water supply and sanitation, extension services, hospitals, and, until 1994, church health activities. In the eight provinces with financial autonomy, rural health services are transferred functions, but the central government sets staff ceilings and funds the salaries of civil servants assigned to rural health services in these provinces.
Source: National and provincial government documents.

'unplugged' in most settings from the larger health scene. Meanwhile, church services have also been affected. Church authorities are unsure whom to relate to and what role they should be playing.

Other issues

High personnel outlays have crowded out not just operational spending but also investment expenditures (Lieberman and Heywood 1995). During the 1980s only 1.8 per cent (13 million kina) of total central health transfers was allocated for capital projects (Thomason and Newbrander 1991). This pattern was reversed quite sharply in the early 1990s, reflecting the availability of Japanese aid funds. Still, there is a pent-up demand for capital spending—hospitals, health centres and other facilities need refurbishing and upgrading. Such outlays should proceed within province-specific service delivery plans, which need to be prepared once various steps to tackle personnel costs are in place.

At roughly 40 per cent, the hospital share of total recurrent health expenditures is well below that in many developing countries. Still, hospital spending grew disproportionately during the 1980s—the period in which the contacts between hospitals and lower-level health activities diminished (Lieberman and Heywood 1995). Also of concern are the wide per capita variations in hospital spending by province. Spending ranged from nearly 30 kina per capita in 1992 in Central province (including the National Capital District), which is served by Port Moresby General Hospital, to 4 kina per capita in Oro province. Despite high and rising levels of spending, occupancy rates are low on average (Lieberman and Heywood 1995). Another indication of inefficiency is the length of hospital stays and the low bed turnover rates. In most countries occupancy and bed turnover rates are higher in lower-level hospitals. This is not the case in Papua New Guinea, where Port Moresby General Hospital, a national referral hospital, outranks many provincial facilities in terms of occupancy and turnover rates. A rethinking of the role of hospitals is needed.

Outlays on pharmaceuticals, a key component of operational spending, amounted to 1.4 kina in 1992 and 2.3 kina in 1993 on a per capita basis. These figures are low considering epidemiological patterns, the high costs of transporting and storing drugs, and expenditure levels in other developing countries (Saxenian 1994). Drug outlays also vary substantially, with Port Moresby, not surprisingly, ranking first in a sample of provinces and accounting for more than 12 per cent of national medical supply expenditures, half of which are for drugs (Lieberman and Heywood 1995). Drug spending needs to rise. But before allocations are increased, major efficiency improvements are needed in the system of ordering, stocking and distributing drugs.

In many countries operational outlays are funded partially through user fees. These price signals also help to direct client demand to appropriate service centres. Papua New Guinea has not turned to cost recovery mechanisms for such purposes (Thomason et al. 1992). Revenues from user fees in hospitals and other facilities account for an unusually low share—about 1 per cent—of health spending (Lieberman and Heywood 1995). The fee schedule has not altered since it was introduced in 1978 despite several cabinet-level efforts to raise hospital charges. Modest levels of cost recovery are the rule in many health centres, subcentres and aid posts. Fee schedules for these facilities are determined at the provincial level. Revenues have usually been used to supplement funds available for operational purposes. Church health services appear to charge and receive higher fees than government facilities.

A new strategy

There is now widespread acknowledgment within Papua New Guinea of health system problems. This recognition has been expressed in public statements by recent health ministers and secretaries and is reiterated in several donor-funded studies and overviews. An awareness of health problems is also evident in various policy innovations and proposals that have emerged during the past two years.

Prompted by then-Prime Minister Wingti, the Village Services and Provincial Affairs Department entered the health arena with a plan to reintroduce periodic village patrols. These outreach visits would be led by the district administrator and would include a full complement of staff from different sectors, including health. Another important initiative was the Public Hospitals Act, passed by parliament in 1994. The Act is intended to enhance the accountability of hospitals to patients' needs. This will be achieved by creating boards made up largely of local business and community leaders, and by establishing each hospital as an independent entity.

There have also been noteworthy developments at the provincial level and in the non-government sector. Meanwhile, the Churches Medical Council, which represents twenty-three different denominations, asked the minister of health to greatly expand public support to church-run services.

These measures and proposals remain partial and unproven, and in some instances rather flawed. Current initiatives need to be pursued and evaluated within a broader framework. Fortunately, such a framework is emerging within NDOH. Recent policy advances are discernible in a February 1995 draft policy paper, which brings some fresh thinking to the country's health crisis.

The draft policy paper

One of the notable features of this document is the transparent and consultative process employed to arrive at a consensus approach. The draft policy statement makes a strong case for a number of policy steps, some of which have already been taken.

- Hospital user charges are set to rise sharply.
- Legislative amendments have been drafted to strengthen hospital boards and improve community representation.
- Government spending on hospitals is to be contained, and channeled on contractual terms in return for specified services, such as training and outreach to rural clinics.
- A fully functional monitoring and evaluation unit will be established within NDOH.
- A special promotion unit will be set up to launch and sustain a massive health education effort involving various audiences and stakeholders.
- Funding for the procurement and distribution of medical supplies and equipment will be protected, and the feasibility of privatising distribution of these inputs will be explored.
- Efforts such as newsletters and radio contacts are planned to improve communications among health staff.

However, the draft policy paper offers some questionable diagnosis and prescriptions. First, the blame ascribed to decentralisation is misplaced. Second, it remains unclear how NDOH would exercise the 'recentralised' powers in health service delivery it feels it needs. Of equal concern is the way expenditure issues are addressed in the draft note. What is missing is a sense of the overall expenditure increases that are implied in the paper's plan to revitalise rural health

services. How large an increase is entailed and how will it be financed?

The draft document is silent on what this paper has identified as the country's over-riding health expenditure issue: the large share of health outlays tied up in personnel-related payments. Three sets of questions should be addressed in the preparation of sustainable plans.

- How can personnel costs be reduced?
- Who should take the lead in designing and implementing expenditure reallocations and efficiency-enhancing steps?
- What role should be played by NDOH?

An effective remedial strategy also needs to encourage private provision of health services together with cost recovery and revenue retention in public facilities. The 1991–95 national health plan suggests some interim measures to encourage private provision of health services. The topic is also touched on in the draft health paper, where reference is made to allowing private specialists to practice on a part-time basis in public facilities. This agenda needs to be expanded to include

- removing the restrictions on limited private practice by doctors who are civil servants and on provision of care by nurses and health extension officers
- establishing transparent and fair arrangements for use of public hospital facilities by private physicians
- hiring not only private specialists but also general physicians and other staff on an as-needed basis
- encouraging the NDOH, provincial health boards (PHBs), leading private providers and insurance firms to develop an incentive and regulatory framework governing entry into private health service provision, standards of care and malpractice options
- offering inducements to private mining and other firms, which already provide health care to their employees, to offer services to residents in the remote, underserved areas near mines and plantations.

The private sector also can be tapped to overcome problems in the drug supply and distribution system.

A phased reform program

The draft health policy paper prepared by NDOH has a number of strong points, including the proposal to turn the central ministry into a powerful advocacy, policymaking and review body. Nevertheless, implementation of the draft document would involve large expenditure increases in a setting where per capita health outlays are already very high and where tight budgetary constraints are likely to continue. As an alternative to the view articulated in NDOH's draft document, this paper suggests a focused effort to endow provinces with the capacity and authority to deliver health services. This approach allocates a crucial advocacy, policymaking, allocation and performance review role to the department and recognises that NDOH needs to develop appropriate 'steering mechanisms', including conditional allocation of block grants, joint planning, review procedures, technical support mechanisms, and so on.

The first year

The aim in the first year would be to revive service delivery in peripheral areas and facilities and to initiate important policy and organisational changes. This can be accomplished by

- protecting health spending by allocating the equivalent of 1992 real expenditures to the sector and by earmarking funds to ensure a significant

increase in outlays for operational purposes, including drug supplies

• creating and empowering health boards in three to five provinces to plan and implement local health programs and to handle all staff-related matters. These boards should include church health service and local business representatives. Mechanisms will need to be developed for consolidating and allocating (as block grants) to these provinces funds now budgeted by the centre for national, delegated and transferred functions. Once in place the boards will need to prepare, against a backdrop of budget ceilings reflecting 1992 real spending levels, annual service delivery and expenditure proposals detailing coverage, utilisation and rough outcome targets, and required facility-level and supervision inputs

• beginning to restructure NDOH to take on provincial review and monitoring, resource allocation, policy guidance, and administrative and technical support functions, and to become the principal voice for health in central policy and expenditure allocation discussions

• transferring authority for government health workers to PHBs and hospital boards, which should be encouraged to enter into collective bargaining with staff unions to arrive at sustainable, locally applicable employment and wage agreements. The centre should assist by funding pensions for post-retirement age staff and retrenchment bonuses and training for redundant workers

• taking steps to improve pharmaceutical quality control, cost accounting and information systems

• strengthening enforcement and collection mechanisms for cost recovery

• removing restrictions on limited private practice by government doctors, nurses and health extension officers

• requiring the hospital boards for Port Moresby General Hospital and Angau Memorial Hospital (Lae) to prepare revise service delivery and staffing plans to reflect reduced central funding.

The second year

The goal for the second year should be to consolidate and extend the policy and institutional changes introduced in the first year and to establish PHBs in several additional provinces. Other broad initiatives are needed to foster reform during the program's second year. First, the NDOH needs to push for major revisions of current civil service codes and salary and benefit agreements with the Public Employees Association and the various health worker groups. At the provincial level, a number of new PHBs should be established, given broad authority for allocation and staffing decisions (subject to budget ceilings), and assisted in preparing service delivery and expenditure proposals.

The third year and beyond

Provincial health boards would be formed in the remaining provinces in the third year and the decentralised health planning and service delivery system would be established throughout the country. Central support for provincial health services should reflect program achievements and agreed goals, as well as equity and epidemiological considerations. NDOH should have completed its transformation into an agency handling provincial support and oversight, policy development and program review functions. To perform these review responsibilities the department will need to collate and prioritise the investment and training proposals that emerge from the health planning exercises conducted by each PHB. During this period NDOH should complete an assessment of current training activities and formation needs for staff likely to be employed in the emerging mixed, decentralised health delivery system.

Recommendations should be provided regarding the nature of training to be subsidised and the most appropriate arrangements for such activities.

Donor coordination

This phased set of policy changes, activities and expenditures constitutes a framework within which aid flows can be prioritised and coordinated. To date, donors have provided considerable health resources, but this support has not been directed to the most pressing needs in the sector. This should change once donors and the government using the decentralised planning process, generate high-priority, bankable expenditures. The provincial planning and budgeting exercises would yield yearly investment and recurrent spending proposals which could, after NDOH review, be presented in an annual consultation attended by all key donors. NDOH could make a presentation at this meeting, providing a status report on health reforms and achievements and planned actions. This gathering could assess proposals and outlays in light of recent performance and policy objectives and agree on the levels and directions of health support for the following year.

The views expressed here are the authors' and not necessarily those of the World Bank Group.

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