

An Analysis of FSM National Health Care Expenditures from 1997-2005

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Abstract:

National health care expenditures in the Federated States of Micronesia (FSM) have increased from 1997-2005. However, population mortality trend is increasing particularly deaths due to lifestyle related diseases or non-communicable diseases (NCDs). Result of the national health account review shows that FSM spent so much on caring for those already sick or who will be sick but less in creating the environments or opportunities for healthy individuals to stay healthy.

Introduction

The Federated States of Micronesia (FSM), as most countries in the world, has become concerned about rising health care expenditures, and whether this increasing spending has brought improvements in the health status of the country's population. In order to do this assessment properly, data on the country's health spending and health outcomes are needed. But while a range of health statistics such as morbidity and mortality statistics are routinely compiled by the FSM government, comprehensive health expenditures data are not included.

The World Health Organization (WHO), through the Strategy for Health Care Financing for Countries in the Western Pacific and South-East Asian Regions 2006-2010 (WHO, 2005), is promoting the regular compilation of health expenditures and financing data to advance evidence-based health decision-making, planning and policy-making in countries in the region. In November 2006, an initiative was undertaken between WHO of the Western Pacific Region Office (WPRO) in Manila and the FSM Department of Health and Social Affairs to estimate how much was spent on health in the Federated States of Micronesia. A system for estimating FSM health accounts was developed and estimates of national health expenditures for the years 1997 to 2005 were produced. This pilot health expenditures project was completed in May 2007 and the report titled *FSM National Health Accounts Report: How much is FSM Spending for Health Care* was prepared to document the methods used and the estimates produced. A second estimation project is currently being implemented to provide updates of health expenditures estimates to 2008 and to establish routine production of data. This follow-up project will be completed in 2010.

The health expenditures data analyzed in this present paper are taken from the above mentioned report. This paper builds on the analysis that was done in the project report and examines FSM health care spending



data alongside data on the country's health performance or health status indicators. This paper has the following purposes: (1) to examine the extent of increase in FSM health spending from 1997 to 2005; (2) to present detailed data on the sources and uses of FSM health funds for the year 2005; (3) to examine patterns of change in health status from the 1990's onwards; and (4) to compare FSM health expenditures and outcomes experience with those for selected Pacific island countries; and (5) using results of health expenditures analyses, to suggest possible reform areas to improve FSM health system performance.

But first, as part of the introduction, the context of the health sector is described to better understand the patterns observed in FSM health expenditures. Additionally, the implementation process of the pilot health expenditure estimation project is described briefly as the FSM experience may be of interest to other Pacific countries intending to carry out the same activity. Frameworks showing the link between health financing and health outcomes are also presented and briefly described to emphasize that while health financing is an important factor, it is only one of many factors that influence the health status of a population. The remaining sections of the paper cover methods, results and discussion, and the conclusion. Based on the findings of the paper, the conclusion suggests possible reforms in health financing and health expenditure allocation that can hopefully lead to accelerating health systems development and improvement in the health of the FSM people in the coming years.

An Overview of the FSM Health Sector

The FSM is located in the Western Pacific just above the equator, West of Hawaii and the Marshall Islands, and in the vicinity of Guam. The country is made up of 607 small islands (land area totaling 705 square kilometers) spread over more than two million square kilometers of the Pacific Ocean. The islands are grouped into the four states of Chuuk, Kosrae, Pohnpei and Yap. The distance between the Eastern-most (Kosrae) to the Western-most (Yap) states is 4,400 kilometers. This geographic structure has a very important implication on access and cost of providing health services in many parts of FSM.

Based on the 2000 Census of Population, the total population of FSM was 107 thousand. Population by state was as follows (in thousands): Chuuk 54; Pohnpei 34; Yap 11; and Kosrae 8. The population is relatively young with 37 % under 15 years old of age and only 3 % 65 years or older. Average population growth per year had steadily declined from about 3 % in 1980-1990, to 1.9 % in 1990-1994 and to only about 0.3 % in 1994-2000. The declining growth is mainly a result of net migration to the US mainland rather than a drop in the natural increase of the FSM population.

The present health care system in FSM is dominated by the public sector. There were only about 6 private health facilities in 2005. In the same year, public health facilities consisted of four state hospitals (one per state and total of 350 beds) and about 113 dispensaries and community health centers. The FSM health care system extends to referrals made to hospitals outside of the country, specifically to hospitals in Hawaii, Guam and the Philippines. The referral program reflects the shortfall of certain types of health services in local facilities including medical specialists, specific diagnostic procedures and various types of complicated health care services. A significant percentage of national health expenditures are used to pay for care obtained from overseas.



A Brief Political History

The states of the FSM were former UN Trust territories in the 1950s, with the United States as the Trustee. In 1978, the people of the (now) four states voted in a referendum to form the Federation (ending the UN Trusteeship) and governmental functions were transferred to the new Federation. The country finally gained independence in 1986. FSM adopted the Federal form of government and the national government was situated in Palikir on the island of Pohnpei. Each respective state has its own government. This government structure is reflected in the distribution of health expenditures by type of payer.

The FSM has since becoming a Federation entered into a Compact of Free Association (CFA) with the US with two funding periods: the first CFA funding period from 1986 to 2003; and the second CFA funding period from 2004 to 2023. The Compact included provisions whereby the FSM would receive from the US Government substantial annual grants to add to local revenues to run public sector operations, both at the national and state levels. The US Government transferred a total of about US\$1 billion during the first Compact funding period and would transfer US\$1.8 billion during the second Compact funding period. The significance of the contribution of the Compact-associated funds to government resources is clearly reflected in the financing sources of health expenditures in FSM.

Pilot Project Implementation Process

The implementation process for the pilot health expenditures project from November 2006 to May 2007 constituted of the steps described below, though not necessarily followed sequentially. These steps explain how the study was envisioned, implemented, and results disseminated and used.

- 1. Responding to national need by defining terms of reference.** Before the project took place, the FSM Department of Health and Social Affairs wanted to know whether or not health spending, not health dollars budgeted or planned to be spent, had increased, decreased or remained the same during the study period. Knowing such information can help the department in better planning or allocating future spending. After the need was articulated by the department, WHO was in better position to respond to the need of the country by sourcing technical and expert support. When the terms of reference were clearly defined, the rest was a matter of putting together a work schedule realistic with project time frame, familiarizing with local situations, getting to know counterparts, and understanding of government systems and process, particularly with respect to budgeting and financing.
- 2. Forming a working team.** Due to the fact that numerous programs exist at National and state levels, it was important to compose a team of individuals to assist in the project. Ideally, it would make sense to dedicate a team of five health professionals to concentrate on this project for a few months, but this was not realistic so the tasks needed to be performed were added to the team members' current workload. With the lead of the expert consultant, the team would meet once a day to review progress. In addition, involvement of the department senior management staff proved helpful in ensuring that tasks were carried out on time so that the project would progress on time as well. This was particularly important when it came to obtaining useful information from other government agencies or departments.



- 3. *Defining scope of review.*** Perhaps the most important aspect in a review is deciding on the scope; that is, what should be included as health expenditure. For example, one could argue that funds spent on school lunch program by the government must be counted as health expenditure because food is important to health. Others might argue that it should not be counted because, while it is important to health, health was not the intended outcome to achieve for the funds. In that regards, *defining the boundary* of health expenditure (what should be counted and what should not) was a critical first step. Equally important in defining the boundary is time of spending. The year in which the expenditures actually took place would determine what information to collect and analyze. In this study, management decided to hone in on 2005 as the reference year for the detailed health expenditure study while also retrospectively reviewing aggregate expenditure data as far back as 1997. The National Health Accounts (NHA) framework was adopted as the basis to define health expenditures and its boundary (WHO, 2003).
- 4. *Compiling a line listing of reports.*** Collecting reports is different from analyzing the reports collected. In this study, it refers to first producing a list of reports, documents, audit findings, grant applications, grant awards, financials status reports (FSRs), consultant reports, etc that the team agreed pertained to the scope of review.
- 5. *Reviewing reports.*** Once a list of relevant reports was produced and the reports were arranged according to area of preference of the team members, assigning who reviewed what reports was the next step. This took into account the technical background of team members, the time required to review the reports, and their professional interest.
- 6. *Cross validating reports.*** In order to assure reliability and validity of data extracted from reports during the *reviewing report* stage, the reports were also reviewed the second time by different team members. The team leader served as the final reviewer of all data or information extracted from the reports.
- 7. *Tabulating the data/figures.*** Once the figures were agreed upon as “health expenditure” that meet the criteria above, the numbers were entered into an excel spreadsheet for analysis. Once in excel simple mathematical and statistical functions/queries were done to figure out the total health expenditures, by years, by state, and for what type of health care.
- 8. *Report dissemination and utilization.*** The findings were put in a report that was shared with the stakeholders both at the national and state levels and other non-government agencies such as MiCare and NGOs. Prior to finalizing the report, a workshop was convened where the team presented the finding back to the stakeholders.

Pacific countries that are interested to start NHA work are referred to the WHO’s Framework for the Development and Institutionalization of NHA in the Pacific Island Countries (WHO 2008a) for more detail on the process and activities involved.

An Overview of the Link between Health Financing and Health Outcomes

Some health status or outcomes data are presented for FSM and comparisons made across selected Pacific countries. The examination of health outcomes data in this paper are made within the context of health



expenditures profiles; this approach, however, does not imply that health outcomes are being attributed directly or solely to health expenditures. Two frameworks are reviewed and briefly discussed to highlight the importance of health financing and, at the same time, to also acknowledge that health financing is only one of many factors that influence the health status of a population.

In the framework representing health care sector operation (Figure 1) drawn by Andreano and Helminiak (1988), economic resources or financing allocated to health (A to B) is at the very start of a series of flows that eventually influence health status (G). Economic resources to health are used to purchase inputs that are, in turn, used for the production of services in health providers (B and C). But these resources to health will not have an impact on health status unless health services are utilized (E). The framework also refers to other factors such as those in the socio-economic sector (F) that also have important influence on health status. Thus, the framework shows that resource mobilization for health is important but how these resources are translated to goods and services (input mix, production and operational processes and service mix) and how these services are utilized have equally important influence on health status.

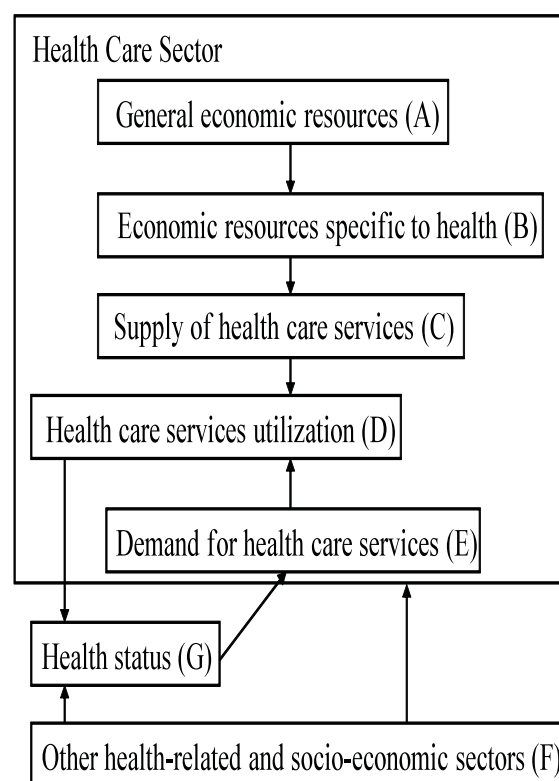
The WHO framework for health systems strengthening (WHO 2007) defines a health system as consisting of "all organizations, people and actions whose *primary purpose* is to promote, restore and maintain health." The framework identifies six building blocks which are leadership/governance, information, service delivery, medical products and technologies, health workforce and financing. Again, financing is an important building block in the strengthening of health systems, and thus to improving health status, but it is one of many building blocks.

Methods

Health outcomes and expenditures data were collected from various sources including the following: WHO 2008 World Health Statistics Report, WHO 1997, 1999 and 2007 Revisions of the Country Health Information Profiles (CHIPS), FSM Department of Health and Social Affairs, FSM Office of Statistics, FSM Department of Finance and Administration, FSM Public Auditor's Office, and MiCare (the FSM public health insurance company) Office.

Health expenditures data (as reported in FSM National Government 2007) were produced using the National Health Accounts approach, and using information obtained from sources listed after the References section. The NHA is a system for reporting country health expenditures being promoted for international use by the WHO, the World Bank, and the United States Agency for International Development. There are two existing guidelines currently used by countries implementing NHA (OECD 2000; WHO 2003) and these guidelines were followed in the estimation of FSM health expenditures.

Figure 1
Health Care Sector Operation



Adapted from: Andreano, R. and T. Helminiak, 1988.



Health expenditures are reported in the NHA following rigorous classification of the types and purposes of all expenditures and classification of all actors in the health system such as financing sources, financing agents (payment intermediaries or payors) and health providers. NHA involves a rigorous approach to collecting data, cataloguing and estimating all flows of money related to the provision and consumption of health goods and services. The NHA is comprehensive because it includes health expenditures paid for by all types of payors in a country including government, households (out-of-pocket), social health insurance, private health insurance and non-profit institutions.

Results and Discussion

- **How much is the FSM spending for health and how has this changed from 1997 to 2005?**

The FSM spent in nominal terms a total of US\$16.1 million in 1997 and increasing to US\$30.6 million in 2005. In real terms (1998=100) total expenditures increased from US\$16.4 million in 1997 to US\$27.4 million in 2005. These totals include all spending for health by the national and state governments (including spending from Compact funding), the social health insurance schemes (MiCare and Chuuk Health Care Plan) and household out-of-pocket.

Estimates of FSM health expenditures for the years 1997-2005 are presented in Table 1, National health expenditures are shown in current prices (nominal value) and in constant prices (real value). National health expenditures in constant prices have been adjusted for inflation and the GDP deflator was used in the computation. Total health spending for the country has stayed roughly between US\$15 to US\$20 million per year from 1997 to 2002. The sharper increases in total level per year are observed after the commencement of the second funding period of the Compact of Free Association with the US. The pattern over the years in the level of health expenditures in real terms followed very closely the pattern observed in nominal terms because of generally low annual inflation rates in FSM.

Year	NHE (in million US\$)		Ratio of NHE to GDP (percent)
	Nominal Value	Real Value	
1997	16.1	16.4	8.4
1998	15.3	15.3	7.4
1999	16.7	16.2	8.1
2000	18.3	17.6	8.4
2001	20.4	19.4	9.3
2002	19.0	18.2	8.5
2003	23.3	22.3	10.1
2004	24.8	23.3	11.1
2005	30.6	27.4	12.8

Source: FSM National Government 2007

Table 1. National Health Expenditures: Federated States of Micronesia, 1997-2005

The ratio of national health expenditures to the gross domestic product (GDP) had increased from about 8% in 1997 to about 13% in 2005. Per capita health spending in nominal terms had increased from US\$151 in 1997 to US\$281 in 2005 and in real terms increased from US\$155 in 1997 to US\$255 in 2005 (Figure 2). Per capita spending had

stayed relatively constant from 1997 to 1999 and generally increasing since 1999 except for the dip in 2002 which was a transition period from Compact funding period 1 to Compact funding period 2. The sharper



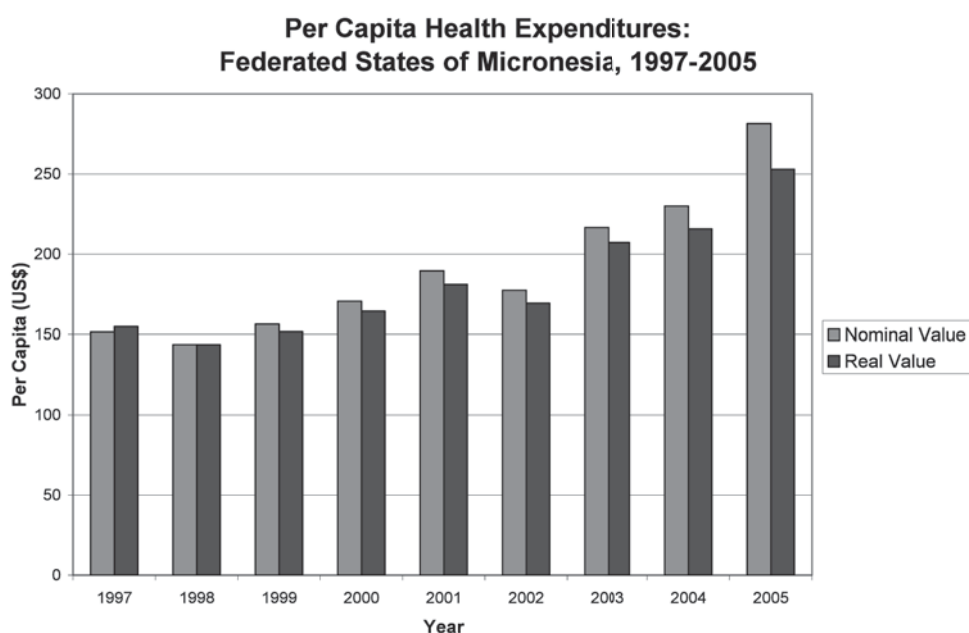
increases in total health expenditure levels after Compact funding period 2 have actually translated to higher per capita health spending, even after correcting for inflation.

In general total health expenditures in FSM are expected to increase over time because of increases in population size and effects of inflation. But as NHA data showed, real per capita health expenditures increased from 1997 to 2005. That is, total health expenditures in real terms (i.e. expenditures with effects of inflation removed) had risen faster than the increase in population size.

The increase in per capita spending is mainly a result of about 80% and 40% increase in government allocation to health between 1997 to 2005 by the national and state governments, respectively, basically reflecting the allocation to health in Compact funding. National and state government spending accounted for 75% of total health spending in FSM in 2005. The spending by MiCare (accounting for about 21% of total health spending in 2005) also contributed to the increase in per capita health spending. MiCare expenditures had increased even more dramatically between 1997 to 2005 by about 250%. MiCare, the FSM national health insurance scheme, has been the main source of financing for health care treatments obtained from health providers overseas. In the same period, 1997 to 2005, FSM population size had increased by only about 3%.

Figure 2

• **What are the sources and uses of FSM health funds?**



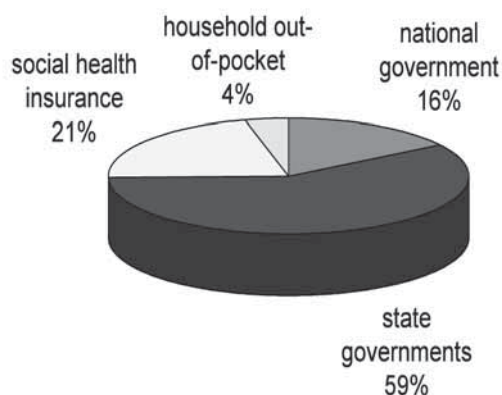
Overall, 72% of FSM health funds in 2005 came from external or “rest-of-the-world” (ROW) sources, more specifically from Compact health sector grant and US Federal Government agencies grants. The remaining funds came from public domestic revenue sources 10%, from private funds (private employers and households) 16% and from other international agencies or donors 2%.

These FSM health funds were channelled mainly through spending by the public sector, about 75% (Figure 3). The State Governments’ Department of Health Services operates state hospitals, dispensaries and public health clinics. Expectedly, the State Governments spent about 60% of total FSM health spending in 2005. The National government’s health spending primarily went into supporting the operations of public health clinics and state hospitals. Social health insurance spending came to a significant share of 21%, while household out-of-pocket spending has the lowest share of about 4%. In 2005, there were two social health insurance schemes in the FSM: MiCare which has national coverage; and the Chuuk Health Care Plan which covers only residents of Chuuk State.



Figure 3

**Health Expenditures by Type of Payor (Financing Agent):
Federated States of Micronesia, 2005**



The 2005 FSM NHA shows that a significant share of health care expenditures was paid to health providers outside of the country (Figure 4). The largest share of FSM health spending had gone towards paying for care obtained in local state hospitals 48% and in foreign or rest-of-the world (ROW) hospitals 11%. Public health related expenditures were made through public health clinics 9%, dispensaries 7% and other public health program activities 7%. Expenditures for the general administration of the national government, state governments and the social health insurance schemes accounted for about 6% of total national health spending. Some 12% of health expenditures were not specified by kind (NSK) of health provider.

Figure 4

The 2005 FSM NHA further showed that curative care accounted for about 62 % of national health expenditures (Figure 5). Spending for public health care was about 22%. There was some spending for training 2% and for capital formation in public health facilities 3%. Some 5 % of health expenditures were not specified by kind (NSK) of health service.

**Health Expenditures by Type of Health Provider:
Federated States of Micronesia, 2005**

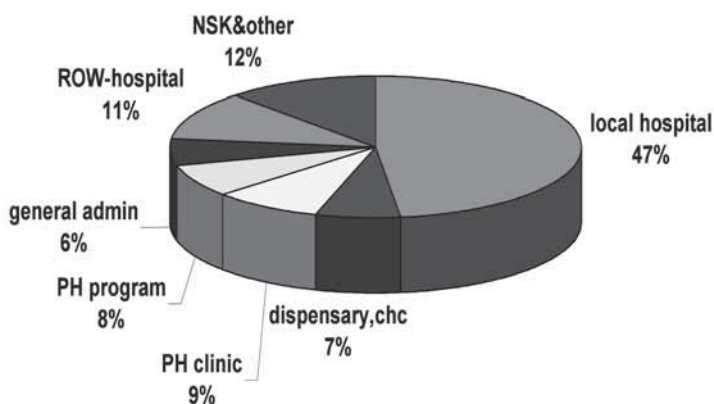
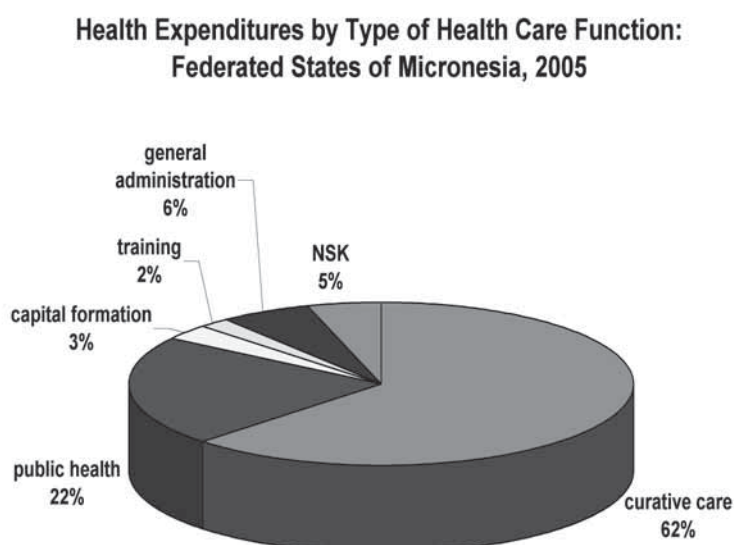


Figure 5

- **How has FSM health status changed since the 1990s?**

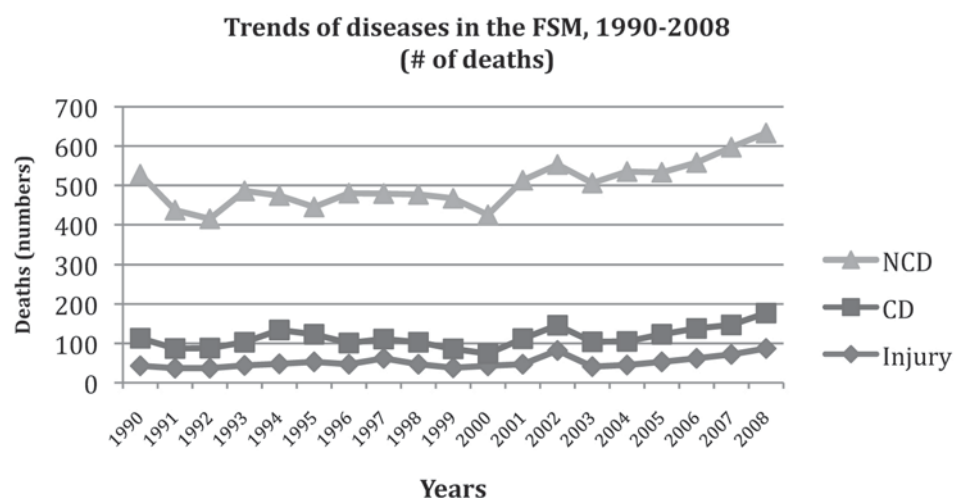


Two basic indicators of the health situation of the FSM population show overall improvements in health. Life expectancy at birth in FSM is estimated to have increased from 64 years in 1994, to 68 in 1997 and to 69 in 2003 (WHO 1997; WHO 1999; WHO 2007a). Data from the same sources showed that infant mortality rates declined from 25 per 1000 live births in 1994 to 21 in 1997 and 2003. On the other hand, maternal mortality rate per 100,000 live births had improved from 226 in 1994 to 122 in 1997, but had deteriorated to 317 in 2003 (same data sources.) Figure 6 shows that while communicable/infectious diseases and injury related diseases are still plaguing the FSM population;

death due to no communicable (NCDs) diseases or lifestyle diseases is increasing rapidly.

Per capita health expenditures had clearly increased in FSM over the years, indicating successful mobilization of funds to health, but the outcomes presented a mixed picture of progress in some areas and lack of improvement in others. This situation indicates that beyond mobilizing funds for health, there is need for FSM to assess how wisely health resources are being utilized, i.e. allocation to different uses, production and operational processes, and access and utilization of health services. For example, it was shown previously that, in contrast to the high share of curative care expenditures, the share of FSM spending for public health and preventive health services had been generally low.

Figure 6



Source: Vital Statistics, FSM Department of Health and Social Affairs



• **How does FSM health spending and health outcomes compare with other Pacific island countries?**

A comparison of the per capita health expenditures and health indicators of FSM with those of selected Pacific island countries provides an indication of what have been achieved at different levels of health spending (health expenditures data for other countries taken from WHO 2008). In terms of per capita spending on health FSM belongs to the higher end among Pacific island countries along with the Cook Islands, the Marshall Islands and Tuvalu (Figure 7). Figures 7 and 8 show that similar health outcomes have been achieved by countries with different levels of per capita spending (health outcomes data taken from WHO 2007a). For example, Fiji managed to achieve the same level of life expectancy at birth as the FSM with per capita health spending that is only about half of that of the FSM. Fiji, Tonga and Samoa, whose per capita health spending are one-half or less that of the FSM, have all achieved infant mortality rates lower than FSM's.

Figure: 7

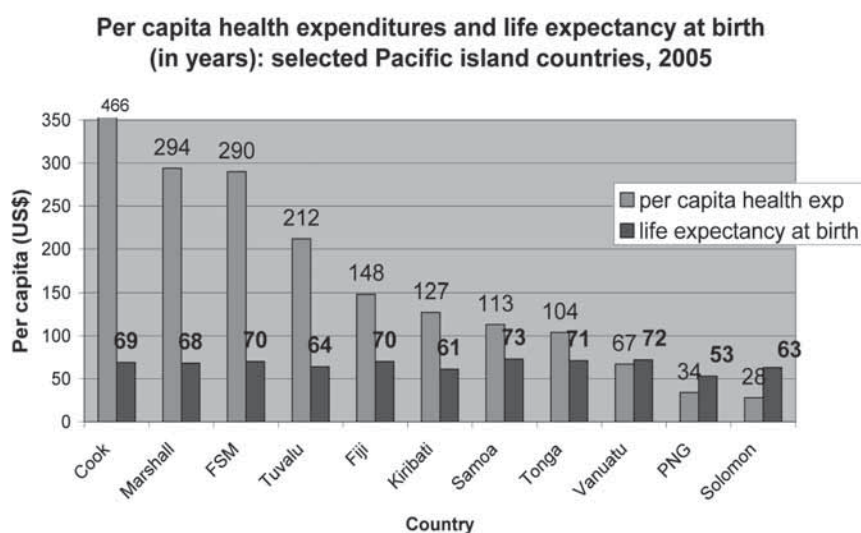
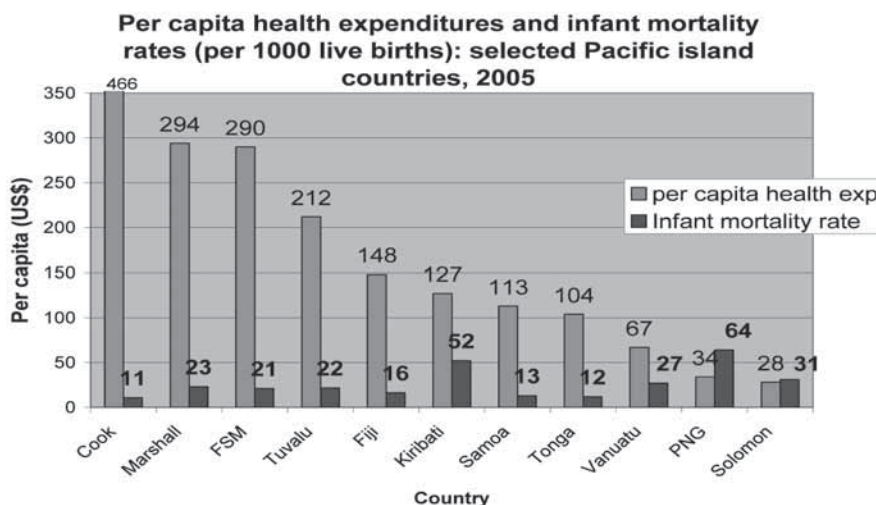


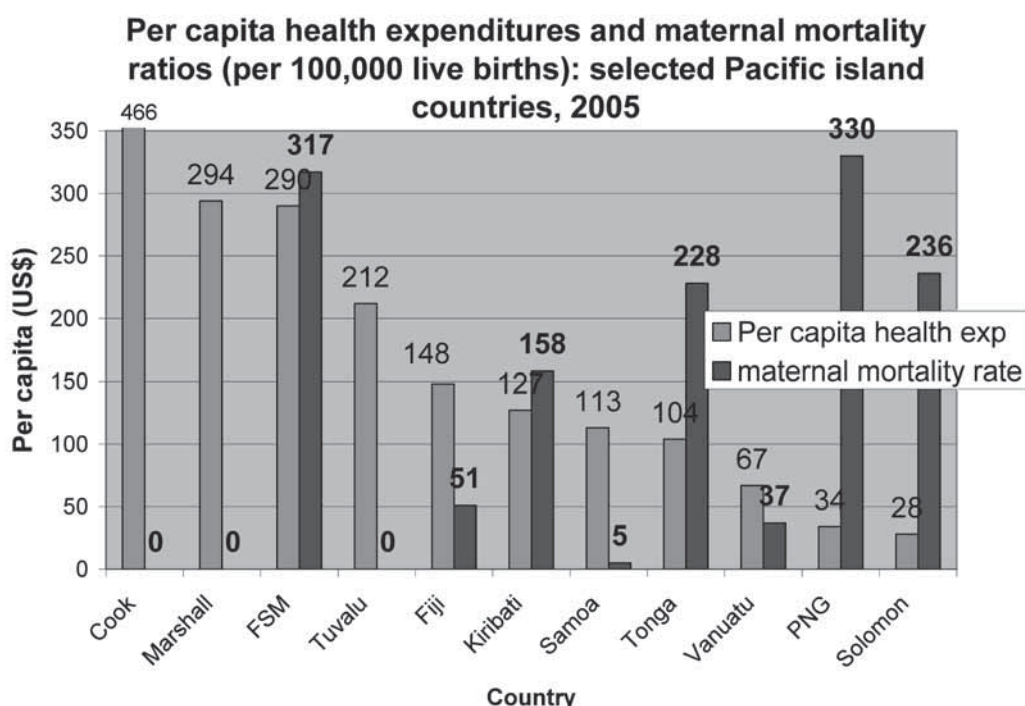
Figure: 8



Moreover, examining data on life expectancy at birth in 2000 and 2006 showed FSM, Tonga, Vanuatu and the Solomon Islands starting from about the same level in 2000 and gaining the same number of years, i.e. two more years, over the six-year period. The latter three countries did it at significantly lower per capita spending.

Figure 9 show that even while FSM is spending much more per person than Fiji, Samoa and Vanuatu, these three latter countries have lower maternal mortality rate. The other high spenders report near zero maternal mortality rates.

Figure: 9



Discussion

A few lessons emerged from this exercise. First, while it is clear that national health expenditure has increased over the years, the progress made to improve health outcomes has been mixed. It is beyond the scope of this article to even ascertain impact of expenditures on health status outcomes as there are many factors that can influence health outcomes besides health spending alone. However, the fact that there are more spending on hospital-based services, what others often called “curative”, than preventive or public health based services should not be ignored. The implication here is that FSM may be spending more to care for those who are already sick or who will soon be sick, but less to keep people healthy so that they don’t get sick. The investment in health promotion, physical activity, and nutrition promotion may be insufficient. Examples from other countries showed that low infant and maternal deaths were achieved at per capita spending lower than FSM spending.



Another point that emerged is the significant amount of dollars that were spent overseas (\$2.8 million). If this amount is redirected for institutional, human, and technological development or investment within the country, it could have contributed to the health infrastructure development.

The findings from this report do not provide answers to all the questions but it does show how much is being spent on health and for what. A closer look at the vital health indicators such as infant mortality rate, maternal mortality ration, and life expectancy at birth suggest that even with high level of spending FSM is falling behind its Pacific Island neighbors in population health status indicators. The irony is that when comparing FSM health status indicators with these Pacific Island neighbors, their spending are much less than what FSM spent.

This observation may support the claim by many that perhaps it's time for the FSM to relook at how it allocates its spending. If the pattern of spending and health status indicators is telling, it seems to suggest that the status quo needs to be reformed in a way for preventive health programs, activities, and services to address the major health concerns.

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*“Learn from yesterday, live for today, hope for tomorrow.
The important thing is to not stop questioning.”*

Albert Einstein



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