The unique geography of Maldives, along with high dependence on imports and expatriate manpower, has meant that health services come at substantially higher costs than other countries in the region. In response, the country has undertaken several reforms in recent years to the way in which health is financed. Two of these prominent measures include the creation of seven health service corporations (defined by geographical area of operation) to manage the health facilities earlier directly managed by the Ministry of Health and Family (MOHF), and the introduction of national health insurance schemes (Madhana, and its variants “Madhana Plus” and “Madhana Basic”). The government has experienced several challenges as it has embarked upon the implementation of these initiatives, and has already made several mid-course corrections in the Madhana scheme. The World Bank has begun to engage with the Government to help ensure these initiatives achieve their desired impact. This note is an input to that technical engagement, proposing some policy options for consideration.

As of March 2011, the social health insurance (SHI) scheme, Madhana, administered by the National Social Protection Agency (NSPA) under the Ministry of Health and Family, covered 77,500 people, which is about 25% of the country’s population. The membership is primarily comprised of two large groups- all civil service officials and all senior citizens. The standard Madhana premium for each member is currently 2000 MRF per year (about USD 130), which is fully borne by the Government for its own officials (though not for the family members of these officials), for senior citizens and for those living in abject poverty. Voluntary enrolment is offered to individuals willing to pay the prescribed premium (a partial public subsidy is available for voluntarily enrolling citizens earning below 17,000 MRF per year), but only a small proportion of the population has taken advantage of this opportunity.

The scope of Madhana benefits is comprehensive and it covers inpatient and outpatient treatments subject to certain specified exclusions. A few cost control measures have been introduced in the scheme, but need to be expanded or refined. The insurance company acting as an administrator does not bear any risk, and thus lacks incentives to help control costs.

Madhana has many challenges to address and also several reform options to pursue. Though not in use presently, use of essential and generic drugs is part of the country’s health master plan, and could also achieve substantial cost savings for Madhana. Voluntary enrolment is likely to remain small and highly prone to adverse selection, unless mechanisms to cover families (rather than individuals) and bring in formal sector employees are considered. Also, despite being under the MOHF, not many linkages exist between the scheme and the prevention activities of public health officials. The current design of Madhana translates into poor internal controls and risk of leakages and cost escalation. This will not only drive increased government expenditure on the scheme (which the economy can ill-afford) but also contribute to spiraling health system costs which will further reduce financial access to health services. A redesigned Madhana would need to increase the reach of financial protection for health, reduce leakages and moral hazard, prevent cost escalation and build in robust monitoring systems.
Background and Context

Maldives developed its first Country Health Plan in 1981. Since then, the government has steadily invested in and developed its health infrastructure and made efforts to provide medical and public health services within the overall framework of its health master plans. Geographical challenges faced by the country (a population of 300,000 citizens is spread over 200 inhabited islands), along with high dependence on imports and expatriate manpower has meant that health services come at substantially higher costs than other countries in the region.

The Maldivian public health system consists of a five-tier referral system, comprising the atoll health centres and the island health posts, the 14 atoll hospitals, the six regional hospitals and a tertiary central referral hospital- the Indhira Gandhi Memorial Hospital (IGMH). Lines of authority flow from the Ministry of Health and Family (MOHF) through the Department of Public Health (DPH) and the local government agencies- the island councils- for preventive services. The National Social Protection Agency (NSPA) in the MOHF is the implementing agency for the country’s national health insurance scheme, Madhana.

The Maldivian health system continues to be predominantly publicly-funded, with very high health expenditure as a proportion to its GDP and as per capita expenditure, relative to other countries in the region and also compared to other countries in the world with the same income level (11% of GDP in 2008). The predominant source of financing health care is the government’s tax and non-tax revenues, while a much smaller share (about 22% in 2008) is financed by out-of-pocket payments by households.

Progress in health related MDGs and its linkages to health spending

Sustained investment in the health sector has enabled Maldives to make remarkable progress in its health indicators. For instance, immunization coverage has been consistently above 96% since 1999, while infant mortality rates have come down to 11 deaths per thousand live births in 2008 against 20 deaths in 1999\textsuperscript{1}\textsuperscript{2} and the share of institutional births has improved from about 90 percent (2004) to 99 percent (2008)\textsuperscript{3}. In terms of progress against MDG targets, as compared to a 1990 baseline, when the Under-Five Mortality Rate (USMR) stood at 48 per 1000 live births, the MDG target for Maldives was to reduce Under Five Mortality by two-thirds to 16 per 1000 live births by the end of 2015. The country had already attained a USMR level of 14 per thousand live births in 2008. Millennium Development Goals for the country also targeted a level of 125 per 100,000 live births by 2015, and the country reported an MMR of 57 per 100,000 live births in 2008 itself.

While these indicators do look impressive in the South Asian context as compared to all other countries in the region, these indicators do not look as impressive when compared to other countries with equal levels of income or with the same levels of per capita health expenditure (World Bank 2010). Issues surrounding efficiency and effectiveness of expenditures can be seen within the Maldivian health sector, with the benefit of international comparisons. Maldives spends a large proportion of its public resources on health (Figure 1) compared to other countries in the region, but it has not achieved equally remarkable outcomes. The country has made progress on infant mortality and life expectancy, enhancing its standing among regional peers and performing better than, for instance, India (see Figure 2 and Figure 3). However, Maldives does not perform comparatively well in the Region relative to its quantum of health spending on infant and maternal mortality rates (Figure 4). One likely reason is the higher costs due to the inability to attain economies of scale given the geographical context and the high reliance on expensive, expatriate human resources who have to be deployed even for small populations. For the latter reason, the country also has more physicians per 1000 population than its income comparators (Figure 5).

In the year 2007, Maldives spent a substantial 9.7% of its GDP on healthcare which is the highest in South Asia (World Bank 2010). Even in absolute terms, the per capita expenditure on health in Maldives (MRF 4056 = 317 USD), is the highest. Moreover, 80% of this is public health expenditure, and it stood at 13 percent of the national budget in 2008. Even from these high levels, upward pressures on the cost of healthcare in Maldives include demographic factors: growth in population, aging of the population, and the impending demographic transition. As depicted in Figure 6 below for countries in the South Asia region, the increase in health spending between 2000 and 2020 arising only from the changing population age composition will have a very high impact on Maldives (World Bank, 2010). The country also has to finance the increasing burden of disease due to non-communicable and lifestyle diseases as part of the country’s epidemiological transition. The rising expectations of citizens from the publicly provided health system, and the global phenomenon of new developments in medical technology and newer drugs and vaccines will all contribute further to this upward pressure on health costs.

The country has been impacted adversely by the global economic downturn which began in 2008, which led to a decline of arrivals in the tourism sector, the country’s main source of income and its largest economic activity. Subsequently, tourist arrivals have started recovering in the second half of 2009 and the trend has continued thereafter, but the bed occupancy rates continue to be lower than previous years, due in part to recently added bed capacity. The fiscal space situation to sustain investments in health financing over the next five years is not very encouraging. The country has
Figure 1: Share of public health expenditure in total health expenditure and in total public expenditure, South Asia

Government Share of Health versus Income, 2007

Figure 2: Infant mortality rates in South Asian countries (1960-2008)

Figure 3: Life expectancy in South Asian countries (1960-2008)

Figure 4: Health indicators relative to income and spending, 2007

Figure 5: Human resources (physicians) per 1000 population versus income and health spending

Global Comparisons of Physicians per 1000 versus Income and Total Health Spending, 2003-2008
undertaken several reforms in how health is financed, despite limited local expertise in health financing and the limited technical assistance available. Two of the prominent measures include the creation of seven health service corporations since April 2010 (defined by their geographical area of operation) to manage the health facilities earlier directly managed by the MOHF and the introduction of national health insurance schemes (Madhana) in August 2008, followed subsequently by its variants “Madhana Plus” and “Madhana Basic”. The government has experienced several challenges as it has embarked upon the implementation of these initiatives, and has already made several mid-course corrections in the Madhana scheme, which is discussed further in this note.

**Madhana: The National Health Insurance Scheme in Maldives**

**Members covered:** As of March 2011, the social health insurance (SHI) scheme, Madhana, administered by the National Social Protection Agency (NSPA) under the Ministry of Health and Family, covered over 77,500 people, which is about 25% of the country’s population (Table 1).

The membership primarily comprises of two large groups— all civil service officials and all senior citizens, which together form the bulk of Madhana’s membership. Family members of these groups are not included in the coverage, and have to be enrolled voluntarily by payment of the requisite contribution, similar to other citizens in the country. Voluntary enrolment by individuals, after several rounds of quarterly enrolment is just 11,613 members. However, the coverage under SHI may see a rapid rise further if any plans being considered by Parliament for mandatory coverage of the formal sector see the light of the day. With a recent directive, the country already requires mandatory health cover for foreign work-permit holders, which are estimated to be over 80,000 in number, but does not require them to seek the same from Madhana, nor does it prescribe the minimum level of coverage. It is understood that many employers have started to buy low-cost group health insurance policies with a relatively small benefit package from private insurance companies, to comply with this requirement.

**Coverage under the Social Health Insurance scheme:** NSPA enrolls beneficiaries under three variants of the scheme: Madhana (the standard offering which is provided to civil servants, senior citizens and indigents fully financed by the government), Madhana plus (a higher benefits version which includes coverage for overseas care offered at higher cost) and Madhana Basic (a stripped down version of the standard offering for individual subscription with a similar benefits package, but with lower monetary caps on the coverage). The enrolled beneficiaries can go to any of the empanelled facilities for outpatient and inpatient treatment, which is on cashless basis. Specific sub-limits for various categories of treatment are laid down, and cost-sharing provisions also apply, within an overall cap of 100,000 MRF per annum per beneficiary for the standard cover. An outsourced agency (Allied Insurance), has been managing the claim system through an online system that has been deployed at all the hospitals/medical facilities. Currently, this online system of the outsourced agency constitutes the claim processing system and the MIS for the NSPA. Allied Insurance pays the hospitals from an advance provided
by the NSPA, using its processing system which has basic checks for coverage and eligibility. The outsourced agency pays providers on a fee-for-service basis and charges the Madhana scheme a percentage of the claims for its services.

There is no separate identification document required for Madhana, other than the National ID card, which also serves as the 'cashless access' card for covered beneficiaries at all authorized service providers. The NSPA has access to the records of the national registry (which issues the National IDs) but is presently required to undertake verifications by punching in the member details manually, which is cumbersome and so not routinely done.

**Enrolment and contribution:** Madhana is community rated, and the full contribution for the standard Madhana premium for each member is currently 2000 MRF per year (about USD 130), which is fully borne by the Government for its own officials, for senior citizens and for those living in abject poverty. Voluntary enrolment in Madhana is presently through batch enrolment which takes place four times in a year; a specific window for enrolling in the scheme is provided before each such enrolment date, and there are presently no disincentives for opting out or for not renewing membership. As a partial public subsidy is also available for citizens earning below 17,000 MRF per year, the scheme effectively becomes somewhat income rated for the individual beneficiary. The targeting systems for this subsidy, though, are currently based on self-declaration and need considerable improvement, and are already under consideration of NSPA for reforms in the targeting for subsidies. The coverage and access is, however, identical for all members regardless of their effective contribution to the scheme. For the non-employed population joining the scheme, the subsidy eligibility is as per the eligibility of the bread-winner in the family. Due to the small number of voluntary paid enrolments (about 15% of the member base), Madhana continues to be predominantly a government-funded scheme with only a small proportion of its revenues coming from non-government sources.

**Benefit package:** The scope of Madhana benefits is comprehensive and includes inpatient ward charges, intensive care unit (ICU) charges, costs of prescribed drugs and medical consumables, operating theatre charges, surgical fees, anaesthetist's fees, pre-hospitalization specialist consultation, fees of attending physicians for daily bedside visits, limited post-hospitalisation treatment for specified number of days, out-patient treatment (including consultation, diagnostics and drugs) from authorized centres, emergency medical evacuation, ambulance fees, out-patient physiotherapy treatment, kidney dialysis and cancer treatment and for assistive devices such as wheelchair, hearing aids, etc. (though assistive devices were discontinued from the benefits package in 2011). Some of the major exclusions stated in the Madhana benefits package include medical termination of pregnancy and treatment for infertility, contraceptive methods, routine physical examinations, acupuncture, weight reduction, treatment which is not medically necessary, treatment of alcohol dependence syndrome and drug addiction/abuse, treatment covered by public programmes of the Ministry of Health, cosmetic treatment and cosmetic surgery including for hair loss, treatment for sleep and snoring disorders, and ayurvedic or traditional medicine.

The higher benefits version, the 'Madhana Plus' scheme, costs an additional contribution of 1500 MRF per year and also covers overseas treatment at defined hospitals in India and Sri Lanka for treatment and facilities not available in Maldives. The lower priced version, 'Madhana basic' has a lower sum insured of 50,000 MRF per annum (this version has lower sub-limits or caps for specific services), and is available to the public for an annual contribution of 1000 MRF per person per year.

**Cost control mechanisms:** As a cost control measure introduced subsequently to Madhana's launch, the scheme now requires prior authorization to be sought for certain interventions/procedures (e.g., treatment of thalassemia, congenital conditions and any physical birth defects). The in-course revisions in Madhana also introduced sub-limits for specific procedures (e.g., RF 700 for Madhana medical checkups, an annual RF 30,000 limit for medicines etc.). The scheme also introduced a co-payment for each outpatient prescription by private providers, which was subsequently replaced by a capping of prices for drugs and procedures, beyond which the scheme would not reimburse the cost. Despite these measures, however, the scheme is fairly open ended in terms of its provisions and medical centres and pharmacies are free to charge any prices for services provided by them, which are among other issues which the NSPA will need to address as the scheme evolves. The fact that the insurance company acting as an intermediary is only a high-cost administrator without any risk being borne by it is also a concern. Use of essential and generic drugs is part of the country's health master plan, and can also achieve substantial cost savings for Madhana, though mechanisms may have to be created to manage drug logistics and ensure quality.

**Increasing Population Coverage in Madhana:** With a predominantly young and healthy population, voluntary enrolment is likely to remain small and highly prone to adverse selection — it is clear that seven rounds of quarterly enrolment have only attracted about 11,000 people from a potential eligible group of about 240,000 Maldivians who did not have Madhana coverage. Also, with every round of enrolment, Madhana's claim expenditure on this 'individuals' group has seen spurts of high growth (depicted in Figure 7). Very little enrolment of other family members has happened wherever civil servants or other population groups have been covered by the government. Because the health expenses of a family member can also have equally significant
consequences as health expenses for an earning member, the introduction of 'Family coverage' and 'Family Floater' options would improve coverage of spouses and children, besides bringing in a bigger pool into the scheme. Finally, there are an estimated 50,000 persons employed in the formal sector who can be tapped through their employers, at not much additional effort because the pension law already requires collection of contributions from employers. The scheme may be able to look at contributions which are also income-rated for formal sectors similar to the pension contribution system. Providing 'family coverage' to the formal sector employees will bring in even greater numbers under health insurance coverage.

Linkages to Preventive and Primary Care: Despite being under the MOHF, not many linkages exist between the scheme and the prevention activities of public health officials. The scheme could certainly use incentive and disincentive structures to encourage public health objectives (such as immunized children, non-smokers, preventive checks) through lower contribution or other modalities, and thereby also contribute to reduction of the scheme’s expenditure on treatment for conditions that can be prevented.

Opportunity for Reform: Recent changes in the country’s health system have far reaching ramifications. The ongoing conversion of the public sector’s health infrastructure into health service corporations (addressed in detail in a separate Policy Note), reduction in the amount of social assistance being provided for treatment of life-saving illnesses outside the country and the continued geographical challenges and high transport costs in the country threaten to increase out-of-pocket costs and increase the vulnerability of the Maldivians to catastrophic health expenditure. The current design and implementation of Madhana, coupled with weak M&E systems, translates into poor internal controls and potential risk of leakages and cost escalation in the system. This will not only drive increased government expenditure on the scheme (which the economy can ill afford) but also contribute to spiraling health system costs which will further reduce financial access to health services for a majority of the country’s population. More than 65 percent of Maldivians do not have access to any financial protection mechanism for their health expenses. A redesigned Madhana could increase the reach of financial protection for health, reduce the potential for leakages and moral hazard, prevent cost escalation and benefit from more robust M&E systems. Redesigning of the scheme in light of the available evidence, and robust internal control and monitoring systems for the scheme will enable close monitoring of the scheme and timely corrections in scheme design and implementation.

Salient Policy Issues for Further Analysis and Discussion:

- Decisions are required on the institutional structure of the scheme- including decisions on risk-transfer (whether the insurance risk is continued to be retained in NSPA or whether the same can be fully or partially transferred to the insurer serving NSPA). Further, if NSPA continues to bear the claim risk, then whether the administration of claims should also be performed in-house or outsourced to a third party administrator.
- Policy decision, logistics and modalities around the use of essential drug lists and generic drugs need to be made in order to reduce outgo on drug costs, one of the fastest growing components of the costs in Madhana.
- Performance contracts with corporatized health system entities, outlining a system which is not based on fee-for-service and provides the right incentive and disincentive mechanisms to encourage quality performance and keep costs contained. Such performance based payment systems are also required for services which may be outside the scope of NSPA but continue to be provided by the corporations to the government, such as preventive services and immunization.
- Improving M&E systems in NSPA to reduce the risk of leakages and cost escalation are a priority. Some measures in this direction include implementing online connectivity with networked providers and ensuring that an effective MIS with built in management reports and internal checks is available with NSPA.
- Exploring closed-ended payment systems with hospitals- such as bundled or
packaged rates for defined services. There may be a case for exploring the feasibility of competition from international hospitals (which may be asked to offer packages including transportation costs for certain elective procedures) to keep costs under check.

- Designing a product pricing strategy which encourages enrolment of family members and thereby more broad-based coverage and spreading of risk.

- Considering a legal framework to mandatorily bring in the formal sector employees (ideally with family members) under Madhana to provide a group which contributes to the Madhana scheme for its own costs, and also brings a large, healthy pool into the scheme, without adverse selection. The employers can continue to offer health coverage beyond Madhana from any other sources, but not opt-out of the minimum coverage of Madhana.

- Continuing with the proposed reforms of the targeting system to ensure that the subsidies are better targeted, especially as more informal sector and lower-income groups are proposed to be brought under the scheme.

- When contemplating a move to universal coverage (in accordance with the recent presidential announcement in September 2011), the scheme may need to identify the maximum essential benefit package which can be offered within the government's fiscal space. Items of high public health importance and known cost-effective interventions can be prioritized.

- The scheme will also need to define clear standards and quality criteria for the services provided to its beneficiaries by its network of providers.

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1 At the time of going to print, Madhana had been discontinued and replaced by Asandha, the universal health insurance scheme in the country, though many of the observations contained in this note continue to be relevant.

2 http://www.who.int/topics/health_policy/en/

3 Data from the Centre for Community Health and Disease Control, Ministry of Health and Family, Maldives, 2009

4 Data from the Vital Registration System, Ministry of Health and Family, Maldives, 2009

5 Community rating, in contrast to income rating and risk rating, is based on the same premium being charged for each member of the community regardless of health status, age or other such factors.

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REFERENCES
