Cost recovery in Mauritania: initial lessons

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Cost recovery was introduced in Mauritania in 1993. Analysis of the Mauritanian experience provides a number of key points to the discussion surrounding the contribution of user fees to health care systems. Initial results appear to be largely positive regarding the improvement of the quality of health care and the overall level of utilization of basic health establishments. Users are globally willing to pay when the quality of health care improves, and that, contrary to a frequently voiced concern, EPI activities have increased. Several elements tend to show that cost recovery accompanied by a fair supply of essential drugs and a better motivated staff has contributed to improve the efficiency of the health system. But a coherent price structure is needed to guide patients more efficiently to the different levels of the health pyramid. It is therefore vital that user fees are extended, as the government intends, to the second and third levels of the health system. The analysis conducted here also suggests that cost recovery has probably had no major negative effects as far as equity is concerned, although further investigation is necessary before a more precise judgement can be made.

Introduction

The stagnation of African economies and the financial constraints, which in the 1980s led many countries to enact stabilization and structural adjustment programmes, have had various effects on the financing of health systems. Whilst the share of GDP spent on health has declined in some countries, in others it has increased. However, on average across a sample of 77 developing countries, it has remained stable, at around 1.8% of GDP between 1982–86 and 1992–95 (Mathonnat and Brun 1997).

In 1987, recognizing that the majority of States in the African sub-region were financially unable to guarantee a minimum level of basic health care to their inhabitants, the 37th WHO Regional Committee drew up a resolution in Bamako (Mali) called the Bamako Initiative (BI), endorsed jointly by UNICEF. In brief, the Initiative’s main objectives were: (1) to strengthen community capacity to organize for health work and to improve district level management for coordinating all health work in the district; (2) to improve the availability of essential drugs and their rational use; (3) to improve the effectiveness of health personnel and to strengthen the integration of all elements of primary health care, with special emphasis on maternal and child health services; and (4) to ensure the effective organization of local financing of operational costs. The Bamako Initiative Management Unit define eight guiding principles, including community financing of health care services with decentralized management of community resources (McPake et al. 1992). A debate rapidly ensued. For some, the BI was destined to fail in the achievement of one of its principal objectives, that of obtaining drugs at a lower cost. For others, failure would spring from the inability of a large part of the population to pay for the drugs that would be available (Lancet editorial, 1988; Creese 1991, 1997). These commentators doubted whether in reality the promising results of pilot programmes which had run simultaneously in Benin and in Guinea, and which were at the origin of the BI, could be translated to a national scale.

By the end of the 1980s, Mauritania embarked upon a programme of stabilization and structural adjustment with ambitious sector reforms. These included the health sector, where the BI inspired the introduction of user fees. This study analyzes the effects of user fees in Mauritania on three areas: (1) health sector resources; (2) quality of health services; and (3) equity of access to primary health care (health posts and centres, and basic health units). The results uncovered are then compared with similar experiences in other countries.

1. Bamako Initiative reforms in Mauritania: implementation

Acute budgetary constraints

In 1990 and 1991 the Mauritanian economy was affected by severe external problems (poor climate, disturbances in the mining sector and difficulties in the fishing industry). Despite the launch of the Consolidation and Recovery Programme, the policies that were pursued failed to counter the problems. In 1990–91 growth was virtually nil, and for numerous reasons, financial resources dwindled and a budget deficit grew rapidly. Taking into account existing internal and external financial constraints, this deficit was not sustainable. As budgetary adjustment is a determining factor in external adjustment, and as Mauritania’s external accounts had also deteriorated, it was vital to reduce the budget deficit.

It was thus within this context of acute budgetary difficulties that in 1992 the government decided that from 1993 onwards...
cost recovery was to be implemented across the board in all first-line health facilities. The aim of mobilizing additional resources for health care through cost recovery became one of the key objectives of the new policy. Contrary to observations in a number of other countries, the implementation of cost recovery in Mauritania was not preceded by a reduction in public spending on health care. Whilst total expenditure excluding interest payments on public debt had declined in real terms (by about 10%) between 1990 and 1992, per capita health expenditure had increased by more than 6%.

But it is worth noting that there has been a marked decline in credits voted over to health care. Therefore, the growth in public health expenditure comes mainly from an improvement in health budget implementation rate (percentage of the budget which was spent), rising from 46% in 1991 to 62% in 1992.

The system
The implementation of cost recovery was first tried in four test areas as a national programme of primary health care, inspired by the BI. In 1993, this approach was extended to the whole country. In theory, cost recovery was to be put into practice in all health establishments (from basic local units to the national hospital, Centre Hospitalier National), and was to cover services and the sale of essential drugs (decree No. 92–027). In practice, at the end of 1996, the hospitals, with a few rare exceptions, had yet to benefit from cost recovery, and its extension to services in category A establishments was still in its initial stages. In addition, most of the resources were generated by the sale of drugs (and prescription cards, valid for a month). Whilst the total resources are managed locally by each establishment, the resources from the sale of drugs and prescription cards are split according to rules laid down centrally: 50% goes to replenishing drugs stocks and 50% is divided between operating costs (30%), motivating staff (30%), and a security reserve (40%) set up as protection against the possibility of unforeseen financial difficulties, as well as for enabling health establishments to invest (e.g. in equipment, expansion of premises) and to finance maintenance operations. In order to ensure that lowest cost drugs are available in all establishments, the national drugs supply system has been reviewed and entrusted to the Pharmaceutical and Drugs Office (PDO) working through the supplying pharmacy (Pharmapro).

2. Effects of user fees on the financing and activities of the health system

Effect on the amount of resources allocated to health
Before cost recovery, resources available to health establishments were made up entirely of an annual subsidy from the state budget, partly in the form of drugs. The drugs were distributed free to the sick. But the irregular and largely insufficient supply of these drugs (the drugs budget allocated by the state was very low compared with the demand), meant that there were frequent and lengthy stock-outs which forced the sick to buy drugs at high costs from private pharmacies.

Has cost recovery led to an increase in the amount of financial resources available to health? From the introduction of cost recovery in 1993–95, there was marked public support for the health sector; total public expenditure on health moved from 1.9 to 2.6% of the GDP and increased by 13% per head in real terms. So, the government had not used the increase in resources from cost recovery to reduce its involvement in the health. As a result, the resources available for the establishments’ current expenditures increased by 33%. Approximately 60% of this increase is due to the resources mobilized from user fees, confirming their very real ability to free up sizeable amounts of finance. Thus, compared with the state subsidies, cost recovery increased resources available in the wilayas (regions) by a factor of 3 (average) in 1995 and those of the primary health facilities by 6. But the increase in resources, which obviously depends on the number of activities carried out in the establishment, varies enormously by region (around 1 in Tagant, Guidimaka and Tiris Zemou; more than 4 in Hodh el Garby and Assaba; more than 6 in Nouakchott; Table 1).

What do the health centres do with these resources? Primarily, they replenish supplies of essential drugs, which was the main objective of the reform (examples in Table 2). Secondly, increased resources allow the establishments to improve the way they operate, particularly in the case of category A health centres, because profitable services (such as a laboratory) subsidize those which are unprofitable (such as stomatology) (Audibert and Mathonnat 1997). Lastly, the security reserves enable the health centres to invest, to finance the maintenance of buildings or to initiate preventive care programmes. For the health establishments these security reserves constitute a sort of fund which in relative terms allows them reasonably large room for manoeuvre, even if it does differ significantly from wilaya to wilaya. As a proxy to assess the relative magnitude of the security reserves, one can compare the amount in the reserve fund at the end of 1994 with the credit allocated to the health establishments by the state in 1995. The ratio is 67% for Nouakchott, 47% for Hodh el Garby and Gharby, but only 17% for Inchiri and 12% for Adrar, for example.

Effect on the quality of care
One of the fundamental principles of cost recovery as envisaged in the Bamako Initiative is that financial participation by users will result in an improvement in the quality of care. Due to many possible approaches, specificity of each situation and different pursued objectives, there is no short and simple way to measure quality of health care (Ellis et al. 1994; Haddad and Fournier 1995; Gertler and Hammer 1997). Therefore, the quality anticipated by the users of health care is a key element, because it has an influence on attendance rates at health establishments. The patient does not judge solely on the basis of results, rather he will make a judgement based on a number of different factors, such as human factors (the welcome he received, the integrity of the staff . . .), and cost and time factors (opportunity cost). Another element in this mix is the availability of drugs, which itself lies at the heart of the thinking behind cost recovery policies. Here, we shall look at this last element of quality. We also will discuss some preventive measures, because one of the dangers inherent in the introduction of cost recovery
is the risk that health establishments focus on revenue-generating activities, in other words, on treatment, to the detriment of preventive activities.

Drug availability

Drug supply is today in stark contrast to that prevailing before the 1992 reform, where state financial constraints, along with gratuitous prescribing of drugs and lack of control over their use, resulted in lengthy stock shortages in health facilities. In 1995, the availability of the five essential drugs considered most important was excellent, ranging from 95 to 100% between the wilayas.\textsuperscript{10} But in 1996, stock shortages lasting several months occurred in certain establishments. It is worth citing the two main reasons, as they confirm that the success of a policy of cost recovery even in the context of a decentralized environment necessitates strong and watchful commitment by the state. They illustrate well how apparently minor breakdowns at state level can put an entire reform at risk.

The supply of essential drugs depends on the Pharmaceutical and Drugs Office (PDO) via Pharmapro. The available resources (including those from cost recovery) appear in local currency (UM) in a specially assigned account. But since all drugs have to be imported, they are paid for in foreign currency. The decision to make the equivalent UM amount available in foreign currency lies with the Central Bank. However,

\begin{table}
\caption{Financial resources of the health sector (in UM) per wilaya}
\begin{tabular}{llll}
Wilaya & State budget (excluding drugs) 1995\textsuperscript{b} & Resources from the sale of drugs and cards 1994\textsuperscript{b} & Increase of the resources of the health establishments\textsuperscript{c} (col.3)/(col.2\texttimes{}0.5) \\
Hodh el Chargui & 12 301 618 & 19 981 072 & >3 \\
Hodh el Gharby & 8 938 980 & 17 782 632 & >4 \\
Assaba & 10 738 860 & 17 191 847 & >4 \\
Gorgol & 11 129 940 & 17 715 449 & >3 \\
Brakna & 13 341 160 & 16 471 466 & >2 \\
Trarza & 12 761 340 & 21 371 289 & >3 \\
Adrar & 7 727 930 & 4 699 213 & >1 \\
Nouadhibou & 4 843 140 & 8 050 941 & >3 \\
Tagant & 7 392 440 & 5 616 705 & >1 \\
Guidimaka & 9 724 228 & 6 033 903 & >1 \\
Tiris Zemou & 4 618 420 & 3 642 499 & >1 \\
Inchiri & 3 625 200 & 3 703 732 & >2 \\
Nouakchott & 14 161 600 & 49 370 525 & >6 \\
\textbf{Total} & \textbf{121 303 860} & \textbf{185 631 270} & >3 \\
\end{tabular}
\end{table}

\begin{table}
\caption{Resources from cost recovery and their utilization in two wilayas}
\begin{tabular}{llll}
Wilaya & Year & Cost recovery resources (UM) & Utilization of cost recovery resources (UM)\textsuperscript{a} \\
& & resources (UM) ––––––––––––––––––––––––––––––––––––––––––––– of which of which \\
& & of which of which \\
& & drugs security fund \\
Gorgol & 1995 & 10 136 289 & 3 718 920 & 3 654 584 \\
in health centres (4) & & 11 850 959 & 4 275 833 & 4 402 866 \\
in health post (17) & & & & \\
Guidimaka & from 10.93 & 20 544 770 & 10 981 143 & 3 532 047 \\
(2 health centres + & to 12.95 & & & \\
26 health posts) & & & & \\
\textbf{Source:} Data collected locally by the authors from the registers of the health facilities. \\
\textsuperscript{a} For drugs, figures are for the amount already spent; the remaining amount is either kept in cash and/or a banking account. For the security funds, the figures are for the amount available at the end of 1995. \\
\end{tabular}
\end{table}
on several occasions the Bank has been so late in doing this that the prices quoted by the suppliers in their offers have no longer been valid, the purchase agreements thus becoming null and void. In addition, the PDO does not have an appropriate distribution system to guarantee supply to regional depots, which is one of its responsibilities.

**Prevention**

After the introduction of the BI, the preventive activities remained free and therefore do not generate resources. In order to make these incentiveless preventive activities more attractive for staff, certain decentralized management committees have decided that in principle the entire staff should receive a productivity bonus. To reduce perverse incentives to ‘over-focus’ on curative care, this bonus will be based not only on the overall amount of resources mobilized through cost recovery – mainly through drugs – but also on the productivity of the different categories of staff, according to criteria (such as quantity of prenatal care delivered) chosen by the local management committees.

We have looked only at one aspect of preventive activities, vaccination for children less than a year old and pregnant women, using one of the indicators of vaccine cover – the number of measles jabs (vaccination at six months) and the number of BCG jabs (vaccination at birth). According to our investigations regarding the number of vaccinations carried out in each wilaya between 1994 and 1995, there are no indications of a lack of interest in (free) immunizations following the implementation of cost recovery in curative care. The number of vaccinations actually increased by around 30%. The increase is not the same across all wilayas, but it is universally positive (Table 3, columns 3 and 4). If this trend is to be maintained, the programme of immunization coverage would continue to improve. It is not enough to argue that the introduction of the BI did not have a negative effect on preventive work like EPI, but regarding a widespread concern, it is interesting to note that it has not been associated with a decline in EPI.

**Effects on access to care and equity**

One of the main criticisms regarding cost recovery is that it reduces access to health care, in particular for those who are most disadvantaged. What is the situation in Mauritania? The question of access to care will be looked at using both an indicator of health facility activity (the number of curative consultations) and a coverage indicator (the number of contacts per inhabitant).

**Access to health care**

Between 1994 and 1995, the volume of activity in primary level health facilities increased by about one-third (Table 4). It appears that the volume of activity increased much more than the population growth in all the wilayas with the exception of Adrar, where it declined by 7%, and Inchiri, where it was static.

The number of contacts per inhabitant might be influenced by the cost of treatment and by the geographical accessibility of the health establishments. A regression using cross-section and time series data (panel analysis), to take into account non-observed characteristics specific to each wilaya (fixed effects), shows for the years 1994 and 1995 a positive relation between the number of consultations per inhabitant and the cost of treatment, with an elasticity of 0.81 (Table 5). This

<table>
<thead>
<tr>
<th>Wilaya</th>
<th>Average drugs expenditure per capita 1994 (UM)</th>
<th>Immunization rate (%)</th>
<th>Immunization per wilaya</th>
<th>pregnant women 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hodh el Chargui</td>
<td>71</td>
<td>32,940</td>
<td>59,133</td>
<td>49</td>
</tr>
<tr>
<td>Hodh el Gharby</td>
<td>84</td>
<td>26,450</td>
<td>48,800</td>
<td>45</td>
</tr>
<tr>
<td>Assaba</td>
<td>79</td>
<td>24,632</td>
<td>39,782</td>
<td>46</td>
</tr>
<tr>
<td>Gorgol</td>
<td>51</td>
<td>29,951</td>
<td>46,216</td>
<td>50</td>
</tr>
<tr>
<td>Brakna</td>
<td>67</td>
<td>43,383</td>
<td>60,583</td>
<td>55</td>
</tr>
<tr>
<td>Trarza</td>
<td>93</td>
<td>45,034</td>
<td>59,761</td>
<td>71</td>
</tr>
<tr>
<td>Adrar</td>
<td>62</td>
<td>10,539</td>
<td>15,201</td>
<td>48</td>
</tr>
<tr>
<td>Nouadhibou</td>
<td>78</td>
<td>19,582</td>
<td>23,478</td>
<td>67</td>
</tr>
<tr>
<td>Tagant</td>
<td>70</td>
<td>7,354</td>
<td>13,915</td>
<td>39</td>
</tr>
<tr>
<td>Guidimaka</td>
<td>39</td>
<td>23,620</td>
<td>32,552</td>
<td>30</td>
</tr>
<tr>
<td>Tiris Zémou</td>
<td>79</td>
<td>10,442</td>
<td>12,242</td>
<td>76</td>
</tr>
<tr>
<td>Inchiri</td>
<td>245</td>
<td>2,585</td>
<td>4,024</td>
<td>88</td>
</tr>
<tr>
<td>Nouakchott</td>
<td>76</td>
<td>121,262</td>
<td>144,227</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>397,707</strong></td>
<td><strong>559,215</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

Source: Statistical yearbook, 1995 and mimeo data.

a All strategies (fix, mobile) and immunizations (BCG, polio 0,1,2, measles, DTC1,2,3 and tetanus).

b Rouvax/BCG.

c The only year available.
result should be treated with caution because of the limited amount of data available (24 observations), and the impossibility of controlling for the effects of other independent variables, per capita income for example. The data do suggest that an increase in treatment costs does not in general terms inhibit access to health care. It may even work in its favour once the quality of that care (e.g. availability of drugs and motivated personnel) has improved.

A more detailed picture from the regional level reinforces this analysis and confirms that the variation in treatment cost is not the only factor influencing access to health care. The first example, in connection with quality of care, is Adrar where the decline in activities between 1994 and 1995 cannot be explained by the treatment cost which remained stable at 196 UM (Table 6). The second one is Inchiri where the treatment cost dropped from 200 UM to 130 UM, while activities remained unchanged, and for which there are two explanations: (1) there is no regional deposit to secure the supply of essential drugs; and (2) the rate of contact in 1994 (1.81) was three times greater than the national average (0.6). The third significant example is Guidimaka where the average treatment cost increased from 159 UM to 207 UM along with a surge of 59% in the number of visits in 1995, but where the contact rate was very low (0.31) in 1994 (Table 4).

The dynamic of increased attendance at health facilities in the context of cost recovery has certainly been reinforced by the extremely large fall in the average cost of treatment when compared before and after the introduction of user fees. At the beginning of the 1990s, the average prescription cost was estimated at 1000 UM by the Ministry of Health,15 or 4% of the base poverty line (24 400 UM). 16 In 1994, it varied between 140 UM and 200 UM according to wilaya (less than 1% of the base poverty line). There is thus a fundamental decline in treatment cost.

### Equity

An overall improvement in utilization of health care does not necessarily mean that equity of access has improved. Cost recovery has raised a much debated question: does it facilitate or hinder access to health care for the poor? The data available for Mauritania do not allow a clear answer to this question, but four arguments are put forward which suggest strongly that cost recovery has had only limited negative

<table>
<thead>
<tr>
<th>Wilaya</th>
<th>No. of contacts per capita 1994</th>
<th>Contacts (C) and report rate (T); (%)</th>
<th>Growth rate 1994–1995 (%)</th>
<th>for contacts</th>
<th>for report rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hodh el Chargui</td>
<td>0.49</td>
<td>90 002 / 67</td>
<td>105 866 / 85</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>Hodh el Gharby</td>
<td>0.56</td>
<td>53 391 / 58</td>
<td>101 313 / 71</td>
<td>90</td>
<td>22</td>
</tr>
<tr>
<td>Assaba</td>
<td>0.72</td>
<td>97 294 / 81</td>
<td>154 854 / 92</td>
<td>59</td>
<td>13</td>
</tr>
<tr>
<td>Gorgol</td>
<td>0.44</td>
<td>79 761 / 71</td>
<td>102 418 / 98</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>Brakna</td>
<td>0.74</td>
<td>59 078 / 85</td>
<td>120 969 / 93</td>
<td>104</td>
<td>9</td>
</tr>
<tr>
<td>Trarza</td>
<td>0.60</td>
<td>61 368 / 69</td>
<td>95 752 / 81</td>
<td>56</td>
<td>17</td>
</tr>
<tr>
<td>Adrar</td>
<td>0.52</td>
<td>16 742 / 76</td>
<td>15 612 / 80</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Nouadhibou</td>
<td>0.64</td>
<td>47 512 / 86</td>
<td>49 496 / 89</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Tagant</td>
<td>n.a.</td>
<td>28 663 / 99</td>
<td>39 174 / 100</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>Guidimaka</td>
<td>0.31</td>
<td>29 005 / 62</td>
<td>46 085 / 54</td>
<td>59</td>
<td>-13</td>
</tr>
<tr>
<td>Tiris Zémou</td>
<td>0.64</td>
<td>8 412 / 98</td>
<td>10 820 / 100</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Inchiri</td>
<td>1.81</td>
<td>17 787 / 91</td>
<td>17 856 / 92</td>
<td>0.4</td>
<td>1</td>
</tr>
<tr>
<td>Nouakchott</td>
<td>0.71</td>
<td>331 732 / 94</td>
<td>371 713 / 97</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>0.59</td>
<td>926 567 / 77</td>
<td>1 231 478 / 87</td>
<td>33</td>
<td>13</td>
</tr>
</tbody>
</table>


a Report rate = the number of activity reports available from the health care structures as a percentage of the number of health care structures. For example, if between \( t_0 \) and \( t_1 \), the percentage of variation of the report rate is higher than the growth rate of contacts, especially if the report rate was low in \( t_0 \), the growth rate of activities might be misleading: it might reflect better reporting rather than an increase in activities.

b We consider every contact, curative or preventive. n.a., not available.

### Table 5

Relation between the number of contacts per capita (dependent variable, log) and the average treatment cost (log) between 1994 and 1995

<table>
<thead>
<tr>
<th>Fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Treatment cost (log)</td>
</tr>
<tr>
<td>Adjusted R² (df)</td>
</tr>
</tbody>
</table>

Correction of heteroclasticity by White process. The Hausman test (null hypothesis = fixed effects versus random effects) induces the rejection of the random effects model in favour of a fixed effects model (\( p \) value = 0.0002).
effects on access to health care for the poor, and even that in many cases its effect is likely to have been positive.

Firstly, before the introduction of cost recovery, access to health care was free by law, but in reality the situation often operated differently. The frequent shortages of drugs in public health facilities led in effect to rationing, which obliged those that could afford it to go to the private sector and encouraged the practice of giving backhanders to health personnel. This state of affairs was in itself disadvantageous to the poor, since they did not have protected access to public health facilities. Secondly, it should be remembered that there has been a considerable drop in the average cost of a prescription – by a factor of 5 – since the introduction of cost recovery. This change has also benefited the poor. However, the average annual expenditure on drugs by users of first level facilities (Table 3) is extremely variable across wilayas (with a coefficient of variation nearing 2). Above a national average of 73 UM, a difference of 1 to 6 can be seen: in 1994, expenditure varied from less than 55 UM (for the Guidimaka and Gorgol wilayas, the wilayas in the Senegal River zone, categorized as poor) to 245 UM (Inchiri). Thirdly, EPI activities have grown. All other things being equal, reducing the risk of certain diseases limits the demand for chargeable treatment, which also benefits the poor households. Finally, the financial accessibility of treatments, measured by the number of treatments bought by patients as a percentage of the number of treatments ordered by the medical staff, is high (around 90%).17 This indicator, which is a proxy to assess the affordability of treatment, improved across all the wilayas between 1994 and 1995, with the exception of Hodh el Gharby and Nouadhibou; in these two wilayas the cost of treatment has, on the whole, risen very slowly (Table 6). A more detailed analysis carried out in two wilayas (Trarza and Gorgol) shows that there is no clear relation between the cost of treatment and its financial accessibility (Figure 1), suggesting that the cost of treatment remains moderate enough not to restrain demand.

In conclusion, all these different elements indicate that the introduction of cost recovery, with its accompanying strategies, might have positive effects on the effective ability of the poor to access health care, even though it is likely to have resulted in some of the more unfortunate being directly disadvantaged. But interviews with managers of the facilities visited indicate that the traditional mechanisms of mutual support – which are now operating in a lower cost environment because of a decrease in drugs costs – for the destitute in the peripheral

<table>
<thead>
<tr>
<th>Wilaya</th>
<th>Average cost recovery per capitaa in 1994a (UM)</th>
<th>Average cost of treatment (UM)</th>
<th>Financial accessibility ratec (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hodh el Chargui</td>
<td>78.59</td>
<td>194</td>
<td>185</td>
</tr>
<tr>
<td>Hodh el Gharby</td>
<td>94.07</td>
<td>186</td>
<td>192</td>
</tr>
<tr>
<td>Assaba</td>
<td>87.75</td>
<td>138</td>
<td>185</td>
</tr>
<tr>
<td>Gorgol</td>
<td>56.46</td>
<td>148</td>
<td>148</td>
</tr>
<tr>
<td>Brakna</td>
<td>74.75</td>
<td>141</td>
<td>153</td>
</tr>
<tr>
<td>Trarza</td>
<td>103.95</td>
<td>187</td>
<td>187</td>
</tr>
<tr>
<td>Adrar</td>
<td>68.97</td>
<td>196</td>
<td>196</td>
</tr>
<tr>
<td>Nouadhibou</td>
<td>86.57</td>
<td>177</td>
<td>184</td>
</tr>
<tr>
<td>Tagant</td>
<td>77.61</td>
<td>162</td>
<td>162</td>
</tr>
<tr>
<td>Guidimaka</td>
<td>43.83</td>
<td>159</td>
<td>207</td>
</tr>
<tr>
<td>Tirs Zémou</td>
<td>88.24</td>
<td>179</td>
<td>157</td>
</tr>
<tr>
<td>Inchiri</td>
<td>272.15</td>
<td>200</td>
<td>139</td>
</tr>
<tr>
<td>Nouakchott</td>
<td>85.25</td>
<td>182</td>
<td>168</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81.50</strong></td>
<td><strong>174</strong></td>
<td><strong>89</strong></td>
</tr>
</tbody>
</table>

Sources: *a UNICEF, Bilan de décembre 1994 (only year available); d DPCS, 1995.

b Total of resources divided by the size of population.

c Equal to the number of prescriptions honoured as a percentage of prescriptions delivered.

Figure 1. Cost of treatment and financial accessibility in the health structures in wilayas of Trarza and Gogol (1995)

Source: From data collected by the authors from registers in the health centres and health posts
3. The Mauritanian experience: lessons learned

Despite the difficulty in obtaining all of the data required before and after the implementation of cost recovery, the analyses undertaken here reveal a number of lessons which can be learned from the introduction of cost recovery in Mauritania.

Increase in resources allocated to health

In Mauritania, we have seen that cost recovery frees a substantial amounts of resources for the health sector. But in countries where cost recovery has been longer established and also covers some health services – it operates only on drugs in Mauritania – the financial contribution made by users often represents an even greater proportion of operating expenses. Naturally the question then arises as to whether these resources are in addition to or in place of public expenditures. In the case of Mauritania, they were in addition to it until 1995, but in 1996 the State reduced the operating cost subsidies given to the first level facilities and cut down on the credits allocated to health; however, the amount they were reduced by remained less than the resources mobilized through user fees. Thus the impact of cost recovery on the total volume of public resources allocated to health in the medium term in Mauritania is uncertain.

Access and quality

The introduction of cost recovery is assumed to have two opposing effects. On one hand, the widespread willingness to pay for an improved quality of service should increase demand. On the other hand, the negative price-elasticity of demand suggests that demand should fall. Some studies show that visits to health services diminish with the introduction of cost recovery; conversely, others note that attendance of public services increases with cost recovery when accompanied by an improvement in the availability of drugs (Reddy and Vandemoortele 1996; Gertler and Hammer 1997; Gilson 1997; Levy-Bruhl et al. 1997).

The Mauritanian experience suggests that cost recovery and availability of drugs, in providing more money with which to operate, has enabled Mauritanian health facilities to develop their activities, offering a wider range of more efficient health care services, principally through the setting up of a system of essential drug supply. This last, rightly seen as the cornerstone of reform in Mauritania, is frequently quoted as a fundamental element in users’ perceptions of quality of health care. The results observed in Mauritania (increase in number of consultations) therefore serve to confirm: (1) what was expected to be one of the main effects of the policy adopted by the government; and (2) the average ability of people to pay more for health care which is seen as more satisfactory. Situations that are similar in certain respects have been observed in Niger (Diop et al. 1995) and in Cameroon (Litvack and Bodart 1993), for example, after the introduction of user fees associated with improved availability of drugs. The willingness to pay for better quality health care in Mauritania can be further explained by the fact that prior to the introduction of the essential drug policy with cost recovery, the public health facilities were badly run.

Efficiency and equity

One of the theoretical benefits of financial participation by users is that a more efficient health system can be developed by communicating to patients price signals and various incentives which lead to more rational use of the public and private resources given over to health.

Firstly, in Mauritania, as patients now find themselves paying less for the same kind of health care, their spending has been more efficient, mainly because cost recovery has been associated with a supply of essential generic drugs.

Secondly, cost recovery frees resources which, all other things being equal, provide ‘financial room to manoeuvre’ which can be used by the government to restructure its subsidies: (1) towards poor wilayas which will mobilize relatively less revenues from user fees; and (2) towards EPI activities, where the positive externalities are greater than for the majority of curative activities. In Mauritania, contrary to frequently expressed concerns, cost recovery has been associated with the growth of EPI activities. The number of vaccinations has been seen to increase. A study carried out in Niger also shows that the introduction of user fees for treatment does not affect negatively the utilization of preventive services (Yazbeck and Leighton 1995).

Thirdly, it is expected that decentralized management should lead to better utilization of resources (allocative efficiency), as the theory of decentralization suggests. In Mauritania, all the revenue from user fees remains under the control of the health facilities, with one exception: the way in which the security fund (20% of the total amount of user fees collected) is used is subject to control by the Ministry of Health, whose slowness has been criticized by peripheral establishments.

Finally, a correctly structured system of tariffs helps to channel patients more logically through the health pyramid. However, this effect is missing in Mauritania because cost recovery was not put into practice at intermediate level facilities between 1993 and 1996. This induced a risk of distortion, which was taken into account when introducing cost recovery in the National Hospital by implementing a schedule of tariffs aimed at encouraging patients to go to first level facilities in Nouakchott, rather than going straight to the National Hospital. But the results seem to have been moderate.

The impact of cost recovery on equity is a very controversial issue in the literature (Nolan and Turbat 1995; Reddy and Vandemoortele 1996; Creese 1997; Gertler and Hammer 1997; Gilson 1997). One of the key aspects regards the demand for health care from the poor, which is more price-elastic than for the rich. In Mauritania, different arguments have been marshalled above which together suggest that on the whole, cost recovery has had no particularly strong detrimental effects on the poor. The Mauritanian case feeds the debate by...
corroborating observations from other African countries: Gambia, Ghana, Lesotho, Nigeria, Sierra-Leone, Swaziland and Zimbabwe (Nolan and Turbat 1995); Niger (Diop et al. 1995); and Cameroon (Litvack and Bodart 1993). Conversely, other studies show that the introduction of user fees has had a negative effect on the health care demand of the poor: Ghana, Swaziland and Gambia (Nolan and Turbat 1995).

The importance of government commitment

This study confirms that a firm commitment from the central government is vital to the success of a user fees policy, and that decentralization in no way diminishes this necessity. In Mauritania, the level of commitment from the state, which is a reflection of powerful political will, is indisputable. But it has not always happened as might have been wished. Three points need to be stressed here. Firstly, shortages in the supply of essential drugs would certainly have been avoided if the government had shown more determined commitment. Secondly, the reduction of public expenditures to health in 1996 was not inevitable. A different set of budgetary decisions, and better planning of expenditure, including external aid, would have allowed more money to be put into health, in spite of the restriction of an expenditure ceiling as defined by the ESAF and agreed with the IMF. Finally, administrative constraints and lack of flexibility created breakdowns in the health sector. This being said, these remarks should be considered against the yardstick of how much has been accomplished – which is considerable – by the government.

Conclusion

The debate surrounding the contribution of user fees to health care systems will continue, mainly because huge differences exist between countries. Analysis of Mauritania’s experience, where cost recovery was extended to cover the whole of the first level of the health pyramid in 1993, contributes to the discussion on a number of key points. Initial results appear to be largely positive regarding improvement of the quality of health care and the overall level of utilization of basic health facilities. They suggest that users are willing to pay when the quality of health care improves, and that contrary to a frequently voiced concern, EPI activities, far from diminishing, have increased. Several elements tend to show that cost recovery accompanied by a fair supply of essential drugs and by better-motivated staff has contributed to improve the efficiency of the health system. But a coherent price structure is needed to guide patients more efficiently to the different levels of the health pyramid. It is therefore vital that user fees are extended, as the government intends, to the second and third levels of the health system. The analysis conducted here also suggests that cost recovery has probably had no major negative effects as far as equity is concerned, the most likely effect even being an improvement in equity compared with the previous situation, although further investigation is necessary before a more precise judgement can be made.

This being said, the government needs to watch three main issues in the future: (1) the volume of public expenditure in health – if the reduction noted in 1996 has continued, resources from user fees will take the place of public expenditures instead of being additional to them, as was the case up until 1995; (2) the sustainability of these overall encouraging first results; and (3) the impact of the reform on the overall health situation.

Endnotes

1 The study is based on a report from the Ministry of Health (Rapport d’évaluation du plan directeur, 1996; cf. references) on unpublished statistical reports regarding the activities of health care structures and on data directly collected by the authors from the registers of health posts, centres and regional administrations in several regions in November 1996. Our understanding of the effects of the introduction of the Bamako Initiative (we call it ‘the reform’) has benefited from several interviews with officials and other people at both central and local level. The available documentation deals with time after reform, which imposes a restriction on methodology. In order to carry out a fair comparison of the two situations, it would without question have been preferable to have had data from before the implementation of the BI. However, this information does not exist at the wilayas (region) level, the system for collecting health information not having existed until the introduction of the BI.

2 This was one of the objectives of the agreement for the Enhanced Structural Adjustment Facility (ESAF), signed with the IMF in September 1992 and finished in January 1995.

3 For statistical reasons, the figures quoted represent health expenditure minus common expenditures and investments outside those of the consolidated investment budget.

4 The only health centres able to offer radiology and stamotology departments and a laboratory.

5 The retail price is twice that paid by the health establishment at the regional pharmaceutical depot, which is itself one and a half times the price charged by Pharmapro. A four-level supervisory system has been set up to monitor the financial management of health establishments’ additional resources.

6 Working from a centrally drawn up list of drugs, Pharmapro is responsible for importing the essential drugs following international bidding. Regional pharmaceutical depots have been created and each health establishment has been allocated a pharmacy. The managers of each establishment transmit their orders to the regional depot, which then acquires the drugs through Pharmapro. The orders are only filled once the money owed has been paid into the Treasury, as the regional depots do not handle invoicing.

7 The non-homogeneity of statistical series prevents analysis prior to 1993.

8 We took 1994 for the reserve funds because the data for 1995 were not available.

9 Security reserves as percentage of credit allocated by the state.

10 Data from Ministry of Health, ‘Rapport d’évaluation du plan directeur’, op. cit. The five being: acetylsalicylic acid, chloroquine, folic acid, Penicillin G and cotrimoxanol. However, a study carried out in June 1995 by the Ministry of Health, and quoted in the above report, showed that 40 others out of a list of 85 essential drugs were out of stock at the PDO. This represents a breakdown in the system, but does not necessarily mean that the drugs were unavailable in the peripheral establishments. It is known, however, that lengthy stock shortages have occurred in the case of very important products such as perfusion solutions/saline drip solutions.

11 Data come from the analysis of activity reports for health establishments put together centrally every year.

12 The low rate of growth in some wilayas can be explained by very high levels of vaccine cover, such as at Tiris Zémou where only a 17% growth in vaccinations was observed, but where vaccine cover in 1995 was 94% for children and 59% for pregnant women. On the other hand, in Inchiri, where rates of vaccine cover were also high, growth rates doubled.

13 All consultations, both curative and preventive.

14 Increasing from 0.93 to 1.23 million consultations.
Most of the drugs were purchased by patients in private pharmacies.

The following figures are given for the settled population of Bolivia (90% of the total) for 1989–90: number with an expenditure threshold of 32 800 UM, 56.6%; with a threshold of 24 400 UM, 44.7%; in rural areas (24 400 UM threshold), 58.7%; in urban areas, 27.7%; extremes recorded at the 24 400 UM level: external rural areas, 65.1%, the Senegal River rural zone, 60.1%; threshold calculated at 1988 prices (World Bank 1994).

Most of the time, when people do not follow the prescription it is because they consider the cost of the treatment or of the analysis to be too high.

47% in Guinea and Rwanda, 70% in Zaire (Makinen and McInnes 1991), 84% in health centres in China (World Bank 1996).

In Senegal, private payment covers 127% of running expenses in health centres (UNICEF/Bimu 1995).

Certain health centres visited complained that a year after requesting it, they had still not received agreement from the governing body allowing them to commit investment expenditure (Audibert and Mathonnat, 1997). Similar situations are reported in other countries, such as Kenya (Mwabu et al. 1995).

But, amongst other things, it had to counter strong opposition to the implementation of an essential drugs policy.

Particularly in international bidding, release of currencies in time by the central bank, and appropriate administrative setup in terms of the structure and logistics of the PDO.

Weak planning and control functions both centrally and at regional level, delays to the implementation of the new organism drawn up by the Ministry of Health, continued centralized management of vertical programmes and human resources.

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