CHAPTER 7

Bringing Medicare+Choice to rural America
Why are Medicare+Choice benefit packages that include extras such as low cost sharing and prescription drugs available to beneficiaries in some urban areas but not widely available to those in rural areas? Despite efforts of the Congress to attract Medicare+Choice managed-care plans to rural areas by revising the payment structure, there are still few managed-care plans available in rural areas, and the benefit packages they bring are not as generous as those offered in some urban areas. The basic market characteristics shared by many rural areas—including a limited number of providers and a dispersed population—will likely continue to frustrate these efforts. A non-network, private fee-for-service option has become available in some rural areas but, like other options discussed in this chapter, is not likely to generate sufficient efficiencies or provider discounts to bring generous benefit packages to rural beneficiaries without increasing Medicare program costs.
Rural Medicare beneficiaries and their representatives in the Congress want to bring to rural areas the generous benefits packages (including prescription drug coverage and low cost sharing) and low premiums enjoyed by beneficiaries in some urban areas who have enrolled in Medicare managed-care plans. Two features of the Medicare+Choice (M+C) program enacted as part of the Balanced Budget Act of 1997 (BBA) were designed to bring such packages to rural areas (see text box). First, payments in lower-paid areas—which includes most rural areas—were increased by creating a floor rate, which has been increased substantially in subsequent legislation and is $475 per month today. Second, plans other than health maintenance organizations (HMOs) were allowed to participate in the program.

---

**Little progress to date**

Thus far, M+C plans offering generous benefit packages at little or no cost to beneficiaries have not entered rural areas. In this chapter, we explain why coordinated-care plans (plans offered by HMOs, preferred provider organizations, or provider sponsored organizations) are unlikely to enter rural areas under most conditions and, if they did, why they would be unlikely to garner the efficiencies and provider discounts necessary to fund generous benefit packages. We also discuss the only other option in the M+C program that is currently available to beneficiaries—a private fee-for-service plan. This type of plan is becoming more widely available in rural areas and presents some unique policy challenges for the Medicare program when combined with the increased floor payment rates resulting from recent legislation. Finally, we briefly describe some other options for bringing more benefits to rural areas at low cost to beneficiaries.

**HMO availability for Medicare beneficiaries**

Although the M+C program allows several kinds of coordinated care plans to be offered, only M+C HMOs (and one M+C provider sponsored organization plan, which is included in the analysis) are offered. Because M+C HMOs have provided the generous benefits in some urban areas that are desired in rural areas, it is important to understand what determines their availability.

The availability of M+C HMOs varies over two dimensions (Table 7-1). First, availability decreases as the degree of urban influence decreases. As one moves from a metropolitan statistical area (MSA) containing more than 1 million people to rural areas not adjacent to an MSA, the availability of M+C HMO plans decreases for any given level of payment. For example, 48 percent of beneficiaries living in large MSAs with a payment rate at the floor level of $401.61 for 2000 had at least one M+C HMO plan available, compared with only 4 percent of beneficiaries in the most rural counties. (In rural counties, the plan is usually an extension of an urban-based HMO; only two plans have completely rural service areas.) Second, availability increases with payment level at all degrees of urban influence except for the most rural (possibly because there are very few counties in this category with payment rates above the floor). For example, in MSAs with a population of less than 1 million, availability increases from 21 percent for counties at the floor level to 94 percent for counties at the highest payment level.

For most of rural America, the M+C payment rate is at the floor (Figure 7-1). Even though the floor represented an increase of over 100 percent from 1997 fee-for-service spending for some counties,
### TABLE 7-1

**Percentage of beneficiaries with any Medicare+Choice health maintenance organization in their county in 2001, by location of county and 2000 payment rate**

<table>
<thead>
<tr>
<th>Location of county (UIC)</th>
<th>Beneficiaries (millions)</th>
<th>$401.61 (floor)</th>
<th>$401.62-$449.99</th>
<th>$450.00-$549.99</th>
<th>$550+</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>In an MSA that includes at least one million people (1)</td>
<td>17.6</td>
<td>48%</td>
<td>76%</td>
<td>88%</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>In an MSA that does not include at least one million people (2)</td>
<td>12.3</td>
<td>21%</td>
<td>37%</td>
<td>65%</td>
<td>94%</td>
<td>57%</td>
</tr>
<tr>
<td>Adjacent to an MSA and includes a town with at least 10,000 people (3,5)</td>
<td>2.4</td>
<td>14%</td>
<td>23%</td>
<td>38%</td>
<td>41%</td>
<td>28%</td>
</tr>
<tr>
<td>Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)</td>
<td>2.8</td>
<td>11%</td>
<td>11%</td>
<td>23%</td>
<td>38%</td>
<td>16%</td>
</tr>
<tr>
<td>Not adjacent to an MSA (7,8,9)</td>
<td>4.2</td>
<td>4%</td>
<td>3%</td>
<td>11%</td>
<td>1%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Note:** UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).


---

### FIGURE 7-1

**2001 Medicare+Choice payment rates**

- $475 floor
- $525 floor
- Non-floor

Alaska and Hawaii not to scale
only 4 percent of beneficiaries in rural floor counties not adjacent to an MSA had an M+C HMO available in 2000. The effect on availability of M+C HMOs from the latest increase in the floor, to $475 per month, has been limited thus far.

**Lack of generous benefit packages**

Where M+C HMOs are available in rural areas, they do not provide the generous benefit packages and low premiums that accompany M+C HMOs in some urban areas (Table 7-2).

The pattern of benefits shows the same trend as plan availability. Even when we only look at beneficiaries who have a M+C HMO available, the more rural the area the less likely beneficiaries are to have generous benefit packages. For example, zero-premium plans, available to 70 percent of beneficiaries in large MSAs who have plans they can join, are only available to 6 percent of the small number of beneficiaries in the most rural areas who have HMOs they can join.

The enrollment picture reflects this lack of benefits in rural areas, even where M+C HMOs are available. Only about 5 percent of those beneficiaries living in rural areas not adjacent to MSAs who could join are members of M+C HMOs—about 11,000 beneficiaries. In large MSAs, over 25 percent of eligible beneficiaries join. The lower enrollment rate in rural areas may reflect the paucity of benefit packages HMOs offer and the higher premiums they charge. It could also reflect the difficulty of marketing in rural areas and the lack of established plans. For M+C HMOs to successfully market themselves to beneficiaries, they must offer enough extra benefits to make it worthwhile for beneficiaries to give up free choice of providers—which is difficult to do in most rural areas.

Although the generous packages offered by M+C HMOs in urban areas in the past may not be as generous today (for example, 75 percent of urban beneficiaries had access to zero-premium plans in 1999, versus 50 percent in 2001), the underlying problem of equity that the BBA and other legislation have sought to rectify remains; beneficiaries in some urban areas have access to M+C HMOs that make extra benefits available for small or no premiums, and beneficiaries in rural areas generally do not.

---

**Table 7-2**

<table>
<thead>
<tr>
<th>Location of county (UIC)</th>
<th>Percent of beneficiaries with prescription drug plan available</th>
<th>Percent of beneficiaries with zero premium plan available</th>
<th>Average monthly premium minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>In an MSA that includes at least one million people [1]</td>
<td>91%</td>
<td>70%</td>
<td>$12</td>
</tr>
<tr>
<td>In an MSA that does not include at least one million people [2]</td>
<td>73%</td>
<td>50%</td>
<td>24</td>
</tr>
<tr>
<td>Adjacent to an MSA and includes a town with at least 10,000 people [3, 5]</td>
<td>59%</td>
<td>36%</td>
<td>30</td>
</tr>
<tr>
<td>Adjacent to an MSA but does not include a town with at least 10,000 people [4, 6]</td>
<td>58%</td>
<td>22%</td>
<td>33</td>
</tr>
<tr>
<td>Not adjacent to an MSA [7, 8, 9]</td>
<td>64%</td>
<td>6%</td>
<td>40</td>
</tr>
</tbody>
</table>

**Note:** UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

**Source:** MedPAC analysis of Medicare Compare data from HCFA website, February 2001.

---

**Why are Medicare+Choice coordinated-care plans unlikely to enter rural areas?**

Three factors make it unlikely that M+C coordinated-care plans, which depend on networks of participating providers, will enter rural areas: the difficulty and economics of forming provider networks, the characteristics of the beneficiary population, and patterns of health care use in an area. In addition, the relation of the rates the M+C program pays plans to fee-for-service spending in the traditional Medicare program must be considered, because for an M+C plan to succeed it has to provide some beneficiaries a preferable alternative to the traditional program and available supplemental (medigap) arrangements.

**Network formation**

Any network managed care plan considering entering a health care market must determine whether enough providers are available to form a network that will meet regulatory guidelines (such as distance and time to closest provider, 24-hour coverage, and the range of medically necessary services offered in network), respond to consumer preferences, and participate on economic terms acceptable to the plan.

Forming networks that meet state (or in the case of M+C plans, Health Care Financing Administration) regulations is difficult in some areas. For example, in rural areas not adjacent to metropolitan areas, there are fewer than 6 primary care physicians per 10,000 people (Geyman et al. 2001). Meeting local consumer preferences may be a problem for urban plans wanting to extend service to bordering rural areas. Urban-based providers might not be acceptable to some rural beneficiaries who want to use their local providers.

Networks in urban areas are often formed using intermediate entities, such as independent practice associations or large
In Medicaid, primary care case management (PCCM) is the prevalent mode of managed care in rural areas—over 60 percent of rural counties participating in Medicaid. On average, rural physicians work longer hours and see more patients than those in urban areas do (Geyman et al. 2001). In addition, if providers are not already organized, networks may have to be built provider by provider, which can increase the cost and effort to enter a market.

In areas with a sufficient supply of providers to generate competition, managed care plans can sometimes negotiate discounted prices for services by proffering higher patient volumes in exchange for lower prices. Rural areas, however, often have few providers. In many counties there is only one hospital, which will have little incentive to negotiate discounted rates with an M+C plan because it will serve all the patients anyway at Medicare fee-for-service rates. This point is illustrated by private payments to rural hospitals. In 1999, private payments were 134 percent of costs for rural hospitals, compared with 113 percent of costs in urban settings, where more provider competition exists (MedPAC 2001).

The same logic applies to physicians. In counties with few physicians it is unlikely that managed care plans could deliver a significantly higher volume of patients than the physicians are already seeing, or that those physicians would accept lower payment even if a higher volume of patients was delivered. In rural areas, forming economically feasible networks that have adequate access is not just a problem for HMOs operating in Medicare. In the Medicaid program, in which membership in managed care can be made mandatory, HMOs are not common in rural areas. In commercial plans, HMO penetration decreases as distance from urban areas increases. In the Federal Employees Health Benefits program (FEHB), HMOs are not available in many rural areas; in eight predominately rural states there are no HMOs available in any county (OPM 2000).

**Population characteristics**

Two characteristics of rural populations influence the entry of managed care plans: density and income. Rural areas have low population density, which makes it difficult to enroll a large number of members in a compact geographic area. A large membership is attractive to managed care plans because it enables plans to spread their fixed costs. For plans to attain large membership levels where population density is low, they either must cover large geographic areas (with all the complication and cost that entails for network formation) or extend coverage from a higher-density area. A large membership also absorbs the risk of some members having large expenses. If the plan population is too small, the insurance risk, or the cost of defraying it through reinsurance, becomes very high.

Medicare beneficiaries in rural areas have lower incomes than those in urban areas. Although lower-income beneficiaries might want to join plans with lower cost sharing than traditional Medicare, they might not be able to pay premiums to do it. Evidence suggests that higher incomes in rural areas are linked to higher Medicare managed care penetration (Moscovice et al. 1997), possibly because plans often charge premiums in rural areas (Table 7-2). If premiums were lowered or eliminated, this relationship might change. Finally, the presence of large employers is often associated with managed care success because they provide ease of marketing and a source of money for premiums. Most rural areas do not have large employers or associated retiree populations. A dispersed, relatively low-income population with no ready source for marketing organization or premium support is unlikely to encourage managed care entry.

**Use of health care**

Higher use of health care under fee-for-service allows coordinated care plans more scope to realize efficiency gains from either decreasing the amount or changing the mix of health care provided. There is no evidence of widespread high use in rural areas (see analysis of use rates in Chapter 1); hence, plans have less opportunity for efficiency gains and little incentive to enter those areas. In addition, in counties where beneficiaries underuse care (due to, for example, low beneficiary income and little supplemental coverage), pent-up demand may lead to an initial spike and a permanent increase in use when beneficiaries switch from traditional fee-for-service to M+C HMOs with lower cost sharing for services. This increase in use has contributed to the withdrawal of some M+C HMOs from rural areas in the past and has discouraged the entry of others, according to an expert panel on the M+C program convened by MedPAC.

---

1. On average, rural physicians work longer hours and see more patients than those in urban areas do (Geyman et al. 2001).

2. In Medicaid, primary care case management (PCCM) is the prevalent mode of managed care in rural areas—over 60 percent of rural counties participating in Medicaid managed care used PCCM in 1997 (Silkin et al. 1998). Primary care case management pays primary care providers a small amount per member per month in addition to any charges for patient encounters, which are reimbursed under fee-for-service rules. Where a choice is available between capitated plans and PCCM, Medicaid recipients overwhelmingly choose PCCM: for example, 61 percent chose PCCM in Iowa and 98 percent chose PCCM in Virginia (Feil-Lisk et al. 1999). The primary care case management model would, however, be unlikely to generate generous extra benefits for Medicare beneficiaries. There are no provider discounts and there is no mechanism to directly reward the primary care provider for efficiency gains; hence, the provider could not translate them to increased benefits for beneficiaries.

3. States without FEHB program HMOs are Alaska, Arkansas, Maine, Montana, Nebraska, New Hampshire, South Dakota, and Wyoming. In other states, such as Idaho, Louisiana, Mississippi, Utah, and Vermont, FEHB program HMOs are available only in a few counties.

The relation of Medicare+Choice payment rates to fee-for-service spending

We have seen that several factors discourage network managed care plans from entering rural areas. For M+C HMOs in particular, the relation of M+C payment rates to spending in traditional Medicare is also important. The Commission looked first at M+C HMO entry under conditions where M+C payment rates are essentially equal to risk-adjusted Medicare spending on beneficiaries in the traditional fee-for-service program. We then looked at the situation in rural areas today, where M+C payment rates are frequently much higher than expected spending in traditional fee-for-service.

If Medicare+Choice payments are similar to fee-for-service spending

As discussed in our March 2001 report, the Commission believes that payments to M+C plans should not stray far from risk-adjusted Medicare fee-for-service (FFS) spending in a local market area because the market distortions that will result from disparate payments are bad for the program and beneficiaries. However, if payments in rural areas are close to FFS spending, coordinated-care plans will not enter rural areas because efficiency gains will not outweigh the plan’s additional marketing and administrative costs. In high-use, high-payment areas, managed care plans can be more efficient than FFS if they can decrease the use of health care or change the mix of services. Plans also may be able to use their market power to extract provider discounts. The literature shows no evidence of overuse of health care in rural areas, so it is unlikely that use can be substantially decreased and there may be fewer opportunities to shift care to lower-cost settings. In addition, if there is no competition among providers, no provider discounts can be expected by managed care firms. If no efficiency will be gained nor discounts extracted, no revenue will be available to fund extra benefits. (Assuming that payments are fully risk adjusted, there is no advantage from favorable selection either.) If a plan cannot offer extra benefits (or even cover its administrative and marketing costs) it will not attract customers and will either not enter a market, or not stay in a market if it does enter.

If Medicare+Choice payments are greater than fee-for-service spending

As we recommended in our March 2001 report, the variation in FFS spending that exists among different parts of the country and whether it is justified should be investigated in its own right, and not addressed through the M+C program. However, M+C payments have been adjusted to decrease payment variation between market areas by substantially increasing payments to rural areas. Thus far, increasing payments to M+C plans in rural areas has not stimulated widespread entry of coordinated care M+C plans, for the reasons stated above. In areas where the non-payment barriers to entry are not as compelling—a commercial network of providers exists, a strong rural provider-based plan is operating, a large local employer supports a managed care plan for its workers and wants its retirees to have access, or M+C plans exist in neighboring urban areas—some entry might eventually be anticipated from higher payments. But in general, the non-payment factors that make it difficult for managed care to succeed in rural areas will not be overcome through reasonable payment increases and increased benefits will not result. This has been amply illustrated by the fact that the number of M+C HMOs in rural areas has not grown despite substantial increases in payment. Increasing payments, however, has given rise to a new type of plan—the private fee-for-service (PFFS) plan.

The private fee-for-service option

In an M+C PFFS plan, the plan takes on the full risk for beneficiaries’ health care expenses and in turn receives a monthly payment from the Medicare program just like any other M+C plan. There is no requirement for management of care or for a network of providers. Although the details may vary by plan, under the plan currently offered the providers are intended to be the same as under traditional FFS and will initially be paid the same rates. Under this arrangement, the only gains in efficiency might arise from beneficiary behavior changing because of differences in cost sharing. (Because payments are not yet fully risk adjusted, there may also be gains or losses from risk selection.) If the use of care is the same as in traditional Medicare, then for the plan to provide benefits beyond those in traditional Medicare, either the M+C payment must exceed average FFS spending by an amount greater than the sum of the plan’s marketing and administrative costs and profit or the plan must charge a premium for the extra benefits.

If M+C payments were substantially equal to risk-adjusted spending in traditional Medicare, PFFS plans could provide a desirable option to some beneficiaries without presenting a

5 If payments to the M+C sector diverge significantly from spending in the FFS sector, beneficiaries will have reason to migrate to the higher-cost sector if the higher spending is translated into additional benefits. This could result in higher total spending by the Medicare program as a whole. Where payments diverge such that M+C payments are far below FFS spending, M+C plans may leave the program, providing less choice for beneficiaries and leaving them less well off. The Commission recommended that “the Medicare program be financially neutral as to whether beneficiaries enroll in Medicare+Choice plans or in the traditional Medicare program. Therefore, Congress should make Medicare payments for beneficiaries in the two sectors of a local market substantially equal, after accounting for risk.” (MedPAC 2001)

6 Providers are informed that their patient is covered under the PFFS plan and what the terms of reimbursement are. Because they will be paid the same as under traditional Medicare, it is anticipated that they will agree to provide services. This willingness has not yet been demonstrated on a wide scale.

7 The original impetus for the PFFS option was to provide benefits not normally available through Medicare even if beneficiaries had to pay the additional cost. This was in response to the fear that as Medicare budgets became more constrained, certain services—particularly for those near the end of life—would be curtailed.

120 Bringing Medicare+Choice to rural America
financial quandary for the Medicare program. Where M+C payments are substantially higher than spending in traditional Medicare, however (as is the case in some floor payment counties), Medicare spending will be increased if an M+C option is chosen. For example, in more than 300 rural counties we estimate the 2001 floor payment rate of $475 a month exceeds the spending for the average beneficiary in traditional Medicare in those counties by at least $130 a month, a minimum increase of almost 40 percent.

In some of those counties, the difference between the floor payment and traditional Medicare spending is greater than the premium for a medigap plan that covers most cost sharing for Medicare-covered benefits. Hence, paying an M+C PFFS plan at the floor rate in some rural counties would not appear to be paying the cost of an efficient provider—the basic axiom of Medicare payment policy. Paying PFFS plans at the floor rate is an expensive way to get extra benefits for Medicare beneficiaries in some counties.

**Other options**

Like its predecessor the Medicare risk-HMO program, the M+C program continues to require that plans absorb all risk for the cost of beneficiaries’ health care. This basic tenet of the program could be rethought. One could argue that the Medicare program itself can more efficiently absorb the risk for health care in areas where few beneficiaries are available to spread the risk. This would be of particular importance in rural areas for provider-based plans (which could be HMOs, provider-sponsored organizations, or preferred-provider organizations) where even a plan that enrolled all the local beneficiaries might still have too few enrollees to properly spread the risk of random high-cost occurrences, probably necessitating the purchase of reinsurance with its attendant costs. Larger plans might ameliorate this problem by covering broader geographic areas, although they would then have commensurately more severe network formation problems and costs. Alternatively, the Medicare program could absorb all the risk and pay plans on a cost basis (as it does for a small number of plans already), or absorb part of the risk and either pay plans a partial capitation amount and some additional amount for each service or pay a split capitation, in which the plan takes on the risk for some services and the program keeps the risk for other services. Each of these approaches has advantages and disadvantages.

**Cost HMOs**

One way to extend HMOs to rural areas might be to reconsider the cost HMO model. Cost HMOs were the original use of HMOs in the Medicare program and provided a way for beneficiaries who had been in HMOs before they were eligible for Medicare to continue their membership. Under current law, new cost HMOs can no longer be formed and existing cost HMOs must cease operation by 2004. There are 21 cost HMOs open to new members and 10 that no longer accept new members.

The Medicare program pays an HMO’s cost for providing basic Medicare benefits, less the actuarial value of traditional FFS cost sharing. If a beneficiary goes to a non-network provider, the beneficiary pays his coinsurance and the Medicare program pays its usual FFS rate. Cost HMOs must charge premiums for benefits beyond the basic Medicare benefit, unlike M+C plans which can offer free extra benefits if payment rates are high enough and efficiencies can be realized. Therefore, they cannot bring the generous benefit packages with low or no premiums desired in rural areas. In addition, experience to date with the cost program suggests that it is more expensive for the Medicare program than traditional FFS (although not necessarily more expensive than the M+C floor payment), so it is not clear that expanding it would be a good solution even if it were desirable (Sing et al. 1996). Although cost HMOs do differ from M+C plans, they too are unlikely to be a major part of a solution for rural areas.

**Partial capitation**

Under partial capitation, a plan would be paid less than the full capitation payment but would receive an additional payment for each service rendered. The additional payment would be less than the normal fee-for-service amount such that the total received by the plan would approximate the total capitated payment. Partial capitation has two important benefits. First, it would decrease the risk to plans because they would be reimbursed more for enrollees who use more health care services. Second, partial capitation decreases incentives to stint on services and hence perhaps increases the services enrollees receive. In rural settings, the primary benefit would be the decreased risk held by the plan, which might make it more feasible to offer plans in places with little potential enrollment. However, the decreased risk would be accompanied by a decrease in the capitation payment, making less money available to provide increased benefits even if efficiency gains could be achieved. It is unlikely that the decreased risk could overcome the other factors that discourage managed care participation in rural areas.

**Split capitation**

Under split capitation, a plan would only bear risk for those services under its control. For example, multi-specialty group practices (to the extent they are available in rural areas) could take full risk for all physician services and no risk for hospital inpatient services. However, it is difficult to see how this could generate a surplus from efficiency that could be used to fund significant additional benefits. Successful Medicaid plans in rural areas that are sponsored by primary care providers depend on limiting referrals to specialists and inpatient admissions to generate surpluses. If plans were not at risk for those services, they could not keep any surpluses generated. Analogously, in Medicare under split capitation there would be little opportunity for efficiency gains by group practices if they were limited to decreasing physician use. The incentive for a group practice to form such a plan would be even less if the group would have benefitted from additional use...
of services under traditional FFS because they are the sole providers for that area. In addition, split capitation raises the problem of providers unbundling services and moving the site of service to a venue for which they do not hold risk. For example, a group practice could move a procedure to an outpatient from an office setting.

**Conclusion**

If the sources of benefits accompanying M+C HMOs in urban areas are efficiency gains and provider discounts, it is unlikely they can be replicated in rural areas through M+C coordinated care plans. If favorable selection is a source as well, proper risk adjustment of payment would preclude that avenue in urban as well as in rural areas. The more likely M+C vehicle for choice in rural areas is the PFFS or other non-network type of plan. The danger for the program, assuming payment floors persist, is that such a plan will cost the program more without proportional increases in benefits for beneficiaries, because of funds needed for marketing and administrative expenses and profits. If several non–managed-care plans compete, profit levels may be trimmed but the administrative and marketing expenses will remain. If the Congress wants more generous benefit packages in rural areas it should address the issue directly, and if a more generous benefit package is made available in rural areas by legislation it must be made available in all areas. Given appropriate risk adjustment, the only sources of savings that can be translated into additional benefits are efficiency gains and provider discounts. Because these sources are not generally available in rural areas, rural beneficiaries are unlikely to see more generous benefits without an explicit or implicit subsidy.
References


