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### **WHAT HAPPENS TO WELFARE WHEN USER FEES FINANCE HEALTH CARE? THE IMPACT GENDER ON POLICY OUTCOMES; THEORY AND EVIDENCE FROM ZIMBABWE.**

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## WORKING PAPERS

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What Happens to Welfare when User Fees Finance Health Care ?  
The Impact Gender on Policy Outcomes; Theory and Evidence from Zimbabwe.

Lucia Hanmer.

Section 1. Health Care Expenditure in Sub-Saharan Africa, 1980-1994.

Between 1982 and 1992 sub-Saharan African countries' real per capita GDP fell by 0.9% per annum (IMF, 1993). The majority of countries have thus experienced stagnant or declining levels of per capita GDP for the best part of a decade and prospects for recovery remain modest. The IMF (1993) predict real economic growth of GDP per capita of two to three percent per annum between 1995 and 1998 but admit that 'projections are subject to a wide margin of error'<sup>1</sup> and that in several countries considerable obstacles to stronger growth exist. Internal factors (e.g. inadequate infrastructure, lack of administrative capacity and poorly designed policies) and external factors (particularly the debt burden and adverse movements in external terms of trade) constitute the barriers to improved economic performance. So, in the medium term, for many sub-Saharan African countries the most likely scenario is a period of continuous structural adjustment accompanied by low growth rates. Given the adverse macroeconomic environment a matter of increasing importance is the production and distribution of social services in sub-Saharan Africa. If social service output is decreased the growth process may be further jeopardized as, for example, deteriorating health status and education levels effect human capital formation and productivity levels fall. Furthermore poverty is highly correlated with access to social services such as education, health, sanitation and the maintenance of adequate housing conditions (Atkinson and Bourguinon, 1982). Social welfare therefore decreases if the supply of social services is reduced. This paper focuses on one specific social service, health care provision. The first section reviews the evidence on health expenditures during the 1980s and early 1990s and looks at policy responses to chronic funding difficulties. Section two examines how gender may influence the outcome of implementing a commonly adopted policy, user charges for health services. Section three looks at Zimbabwe's experience with user charges and proposes a simple theoretical framework that captures key aspects of the household's response to the increased cost of health care. In section

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<sup>1</sup> World Economic Outlook, 1993;55

four conclusions are drawn.

### 1.1. Public and Private Expenditures on Health.

The data on social spending in sub-Saharan Africa show that between 1977 and 1989 real levels of government health and education spending per capita failed to keep pace with population growth. By the end of the decade of the 1980s per capita health and education spending were no higher on average than at the beginning (Sahn, 1992).

<sup>2</sup> Table 1 shows that the level of government expenditure on health services in sub-Saharan Africa is extremely variable. While the highest level of per capita GDP is about four times that of lowest there is a fifteen to twenty fold difference between government health expenditures in the high and the low group (World Bank 1993a).

In the high group per capita expenditure increased between 1986 and the most recent year for which data were available while those in the low and medium groups stayed about the same. Here there is clearly some correlation of health spending per capita with economic performance. Average per capita GNP growth for the high group, 1965-90 was 3.7% compared to 0.5% for the medium group and -0.5 for the low group.

Levels of per capita expenditure are low in relation to the health expenditures necessary to achieve improvements in key health indicators. The World Health Organisation estimates that to achieve primary health care coverage \$10 per capita per annum must be spent in 1980-2000, excluding public health expenditure on clean water and sanitation (Carrin, 1992). As only twenty eight percent of the sub-Saharan Africa's rural population has access to clean water and eighteen percent access to improved sanitation (UNDP, 1993)<sup>2</sup> considerable complementary government expenditures are necessary to make primary health care a reality. The medium and low expenditure countries fall well below the \$10 per capita level; per capita spending in the high expenditure countries could allow extensive primary health care coverage depending on the health sector's budget allocation between primary, secondary

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<sup>2</sup> The rural population is sixty nine percent of the population. Data are for 1988-90.

and tertiary.

**Table 1. Groupings of Countries by Relative Level of Government Expenditures on Health, Population Weighted Averages, 1987.**

Country Groupings			
	High	Medium	Low
Population	21.4	102.3	21.7
Average GNP	\$818	\$395	\$225
<b>Government Health Expenditures per Capita</b>	(1987 Constant Dollars)		
1980-85	\$15.3	\$5.0	\$1.0
1986-MR	\$20.7	\$4.6	\$1.0
<b>Government Health Expenditure (% GDP)</b>	(Percentage of GDP)		
1980-85	2.3%	1.4%	0.6%
1986-MR	2.7%	1.2%	0.5%
<b>Government Health Expenditure (% Total)</b>	(Percentage of Total Expenditure)		
1980-85	5.9%	5.3%	2.8%
1986-MR	6.6%	5.0%	2.6%

High Countries: Botswana, Lesotho, Mauritius, Swaziland, Zimbabwe.

Medium Countries: Burundi, Cameroon, Gambia, Ghana, Liberia, Kenya, Malawi, Mali, Niger, Rwanda, Senegal, Togo, Zambia.

Low Countries: Burkina Faso, Ethiopia, Nigeria, Somalia, Sierra Leone, Zaire, Uganda.  
MR means most recent year for which data are available (latest 1990).

Source: The World Bank (1993a) Table 1;104.

Government expenditure on health has changed little as a percentage of GDP and the low and medium groups compare badly to averages for all developing countries. The countries ranked as low human development by the Human Development Index (UNDP 1993) on average spent 3.2% of their GDP on health, 1988-90 an increase from the 0.6% average in 1960. As a share of total government expenditure health expenditures in the low and medium group have been roughly maintained and increasing priority has been given to health

expenditures in government budgets in the high group. The World Bank (1993a) observe that the 2.6% allocated the health sector budget by governments in the low group is a clear indication of their lack of commitment to health care provision and points out that governments could cut defense budgets to allocate more to health sectors.

While there is general agreement that stronger economic performance can effect government health spending positively, controversy surrounds the impact that structural adjustment programmes (SAPs) adopted by the low/negative growth countries have on social spending. On the one hand stabilisation programmes invariably require reductions of government budget deficits which have led to concern about the vulnerability of social sectors to ensuing cut backs (Cooper Weil et al, 1990). On the other hand it is argued that by over combating the long term barriers to growth SAPs will allow higher social spending as government revenues will increase with improved economic performance. One author goes as far as to argue that more outward orientated policies associated with structural adjustment will create more incentives for investing in health (Behrman 1993).

The impact of SAPs on social expenditures is highly variable. Demery and Addison's study of sub-Saharan Africa in the 1980s (1987, cited in Cooper Weil et al 1990) found that in general public expenditures were shifted away from social sectors towards agriculture, reflecting at least in part the World Bank's concern with increasing agricultural productivity. More recent attempts to specifically link the adoption of SAPs with reductions in government health expenditures have produced contradictory results. Rising real health expenditure accompanied adjustment in Burkino Faso, Kenya and Zimbabwe while in contrast falling or stagnating real expenditures accompanied adjustment in The Gambia and Sierra Leone (Sahn 1992).

The World Bank (1993a) emphasise the impact of SAPs on the share of government expenditure. They cite a study that found that expenditure on health as a share of total government expenditure was seven to eight percent higher in the adjustment than the non adjustment years and argue the evidence is therefore that social spending is thus protected during adjustment. The maintenance of a share of the government's budget is of course consistent with the findings cited above of declining real levels of expenditure if increases

in the real value of total government expenditure do not keep pace with population growth. The evidence for sub-Saharan Africa is that this is exactly the case. By the end of the 1980s government expenditure, net of interest payments on debt, was only five per cent higher than in 1980 (Sahn 1992), whereas population had been growing at 3.1% per annum between 1980 and 1990 (World Bank 1993b).

There is therefore no unique relationship between structural adjustment programmes and government spending on health services. Governments may maintain the share of spending on health in their budgets but this is little compensation to those dependent on government services if a shrinking total budget and rapid population growth means that in real per capita terms health spending declines or stagnates. Furthermore in many sub-Saharan African countries expenditure levels have been inadequate for decades, resulting in the total absence of health facilities or pharmaceutical drugs in many rural areas and chronic deterioration of the health sector's capital stock. The World Bank (1993a) refer the opportunity that structural adjustment programmes provide for governments to rationalize and restructure their health services albeit with the aim of increased efficiency and equity. When such restructuring entails the withdrawal of previously free government services people will experience policies associated with structural adjustments as cut backs in provision, even if per capita levels are in fact unchanged. For some governments it may be more politically expedient to cite the culprit as IMF/World Bank backed SAPs rather than to admit to government responsibility or support for reductions in the level of general health care subsidies.

Where government health services have never existed reductions in expenditure will, of course, have no impact on the health status of the affected poor, but this hardly a reassuring outcome. As Sahn (1992) concludes while it is true that the current state of social services is not a result of SAPs it is equally true that

'....the level and use of multilateral adjustment credits has not addressed the acute shortages in the provision of social services'<sup>3</sup>

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<sup>3</sup> Sahn 1992;690

Government expenditure on social services is only part of the total provision of health services in developing countries. The private sector often provides an equally important contribution. In Table 2 private expenditures are based on household surveys and should thus encompass own account expenditures on over the counter drugs, payments for health insurance and to private practitioners in the modern and traditional sectors. When private expenditures are included in the per capita data levels, even for the countries in the low group are considerably higher than those shown in Table 1. Data on private expenditures on health care must be interpreted with care however as studies show that health care is highly income elastic and as privately supplied health care can be extremely expensive, so per capita data may be misleading concealing large standard deviations from the average. On the other hand non profit making organisations such as mission hospitals and clinics are often make (fairly low) charges for their services. Such private health care provision is frequently more efficient and provides better quality services than government facilities that people are prepared to pay for. So, if in response to cut backs in public provision more private non profit making health facilities appear, higher private expenditures can reflect improved access to health care for the poor (Pinstorp-Andersen, 1993).

The large contribution of development assistance (accounting for about fifty per cent of total expenditure in Mozambique, Tanzania and Uganda) can be explained in part by the extreme foreign exchange shortages experienced by most African countries in the 1980s. More than ninety per cent of pharmaceuticals in Africa are imported. Devaluations associated with SAPs increase the local currency cost of government expenditure on drugs and in many instances multilateral and bilateral donors have stepped in to help sustain pharmaceutical imports (World Bank, 1993a). Previously large components of donor funds (44% on average from bilateral donors at the end of the 1980s) have been spent on capital investment in the health sector. The use of donor funds for drug imports is therefore part of the more recent shift of resources to supporting recurrent rather than capital health expenditures. The greater emphasis on the necessity of supporting recurrent health expenditures is due to the financial crises faced by governments and the recognition that in the past many capital expenditures have been inappropriate as lack of funding has meant that governments have been unable to operate the facilities efficiently.

Table 2. The Contribution of Private Expenditures and External Assistance to Total Health Expenditures in Sub-Saharan African Countries, China and Latin America and the Caribbean, 1991.

Country.	Total (Private & Public)	Percentage of GDP.		Development Assistance		
		per capita (current \$)	Public	Private	per capita (current \$)	% total
Mozambique	5		4.4	1.5	2.9	52.9
Tanzania	4		3.2	1.5	2.1	48.3
Ethiopia	4		2.3	1.5	0.8	18.8
Uganda	6		1.6	1.8	2.8	48.4
Burundi	7		1.7	1.6	2.8	42.7
Madagascar	7		1.3	1.3	1.5	21.5
Sierra Leone	5		1.7	0.8	1.7	33.0
Malawi	11		2.9	2.1	2.5	23.3
Rwanda	10		1.9	1.6	4.1	39.5
Mali	15		2.8	2.4	4.3	27.7
Burkina Faso	24		7.0	1.5	4.7	19.4
Niger	16		3.4	1.6	5.6	34.0
Nigeria	9		1.2	1.6	0.6	6.4
Kenya	16		2.7	1.6	3.5	22.3
Benin	17		2.8	1.6	7.0	41.8
Ghana	14		1.7	1.8	1.9	14.2
Togo	18		2.5	1.6	3.9	21.0
Zimbabwe	42		3.2	3.0	4.2	10.0
Cote d'Ivoire	28		1.7	1.6	0.9	3.4
Senegal	29		2.3	1.4	4.9	16.9
Cameroon	24		1.0	1.6	3.3	13.4
China	11		2.1	1.4	0.1	0.6
Latin America & Caribbean	105		2.4	1.6	1.3	1.3

Note: Italicized numbers are imputed data based on private expenditures in other countries.

Source: World Bank 1993b Table A.9;210.

Table 3. Indicators of the Effectiveness of Health Expenditures.

Sub Saharan Africa			China		Latin America & Caribbean	
Probability of dying (%)	1950	1990	1950	1990	1950	1990
Age 0-4	28.6	17.5	31.5	4.3	19.9	6.0
5-14	6.2	3.1	6.3	0.8	3.7	0.9
15-59	47.9	30.6	53.4	17.5	36.6	19.1
60-75	58.0	49.4	65.2	41.5	51.5	33.0
<u>Doctors per 1,000 population</u>	1988-92		1988-92		1988-92	
	0.12		1.37		1.25	
<u>Percentage of children immunized (age &lt; 1yr)</u>	1990-91		1990-91		1990-91	
Third Dose of DPT	52		95		71	
Measles	52		96		75	

Note: DPT is the vaccinations against diphtheria, whooping cough and tetanus.

Source: World Bank (1993b) Tables A.5;203 and A.8;208

Average indicators of the outcome of health expenditures for sub-Saharan Africa compare badly to those for low income economies. Life expectancy is 11 years lower, infant mortality 55 percent higher and maternal mortality double that of other low income countries (World Bank 1993a).

Table 3 shows that in China and sub-Saharan Africa people faced similar probabilities of dying at different ages in 1950. By 1990 China has managed to reduce this probability by substantial amounts; the probabilities for younger people are now on a par with the predominantly middle income Latin American and Caribbean countries. Immunization of children under a year is near universal in China, outstripping the performance of the richer Latin American and Caribbean countries and sub-Saharan Africa.

Moreover China has achieved these improvements with a similar share of GDP spent on public health service provision and a lower per capita expenditure

than most of the sub-Saharan African countries listed in Table 3 and at about a tenth of the per capita health expenditures made in Latin America and the Caribbean (see Table 2.). These data draw attention to the need to consider the allocation of health expenditures and intercountry differences in purchasing power parities when comparing health expenditures between countries.

A dollar may buy substantially different quantities (and qualities) of health services in one country compared to another depending on the structure of relative prices. Table 3 shows that there are more doctors per thousand population in China than in Latin America and the Caribbean despite the substantially lower per capita expenditure in China. One possible explanation is that doctors in China command lower salaries than in Latin America. High per capita health expenditures need not therefore indicate that extensive, good quality health services are available to the population, they may simply be a result of an expensive, inefficient health system.

The allocation of expenditure within a country's health system can be a key determinant of the returns (in terms of improved health indicators) of health expenditures. A common criticism of health expenditure in many developing countries (World Bank 1993b) and sub-Saharan African country in particular (World Bank 1993a) is that too much of the sector's budget is allocated to relatively expensive tertiary (hospital) health care provision and not enough to cost effective primary health care provision. Fifty per cent of people in sub-Saharan Africa do not have regular access to modern health care and urban hospital based curative care accounts for 30-80% of public expenditure on health (World Bank 1993a).

The ability of health expenditures to improve health indicators is, also determined by factors outside the health sector including nutrition and food availability, access to clean water and sanitation and the population's vulnerability to adverse shock such as wars, famines and political instability.

The attainment and maintenance of high and increasing levels of per capita health expenditures for sub-Saharan African countries is thus a necessary but not sufficient condition for improving health status. Evaluation of the cost

effectiveness of health spending and its allocation must thus be central to any health sector policy.

## 1.2 Policy Responses.

African countries have responded to the crisis of health care finances by

- Increasing user charges for government health services.
- Relying more heavily on foreign aid.
- Promoting health insurance schemes.
- Promoting private provision of health services.

Charging fees for public health services is increasingly common in sub-Saharan Africa<sup>4</sup>. Systems of cost recovery include, fees for consultations; fees for drugs; fees services (payment per illness); prepayments for hospital services and fees for hospital residence and treatments. The level at which they operate ranges from the community (local health clinic) level to central administration by the Ministry of Health. Typically fees and charges are only a small proportion of total health sector finances; their contribution to government recurrent expenditure was less than five per cent for most countries in the mid 1980s. The World Bank (1993a) argue that there is considerable scope for the expansion for this source of finance for the health sector. The system of financing has according to the World Bank (1993a) advantages on equity grounds as the income elasticity of demand for health services means that charges to wealthier people (who will use health services the most) can be used to subsidize and increase health services to those least able to pay. The *Development Report* (World Bank, 1993b) takes this theme further proposing that governments should aim to reduce or even eliminate spending on 'discretionary'<sup>5</sup> clinical services by increasing user fees.

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<sup>4</sup> Botswana, Burkino Faso, Burundi, Cote d'Ivoire, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mali, Mauritania, Mozambique, Rwanda, Senegal, Swaziland and Zimbabwe are among the countries that have user charges for health care (World Bank 1993a).

<sup>5</sup> The components of the minimum 'essential' clinical services package are, services to ensure pregnancy related care; family planning services; treatment of sexually transmitted diseases and care for common serious illnesses of young children. At maximum 'discretionary' clinical services could be defined as all except for those on the 'essential' list.

International aid's contribution to health expenditures increased from an average of \$1.50, 1981-6 to almost \$2 per capita by in 1989. Although aid has been essential to the sustainability of health services in many African countries, increasing reliance on aid for health sector finances has not been problem free. The World Bank (1993a) notes that the tendency of donors to favour specific topical themes, eg AIDS, can detract attention from the need to strengthen basic health facilities and that constantly shifting priorities create problems in policy consistency and sustainability. In some instances aid reliance has led to 'a virtual abdication of responsibility for health policy formulation'<sup>6</sup> by governments.

Only a small proportion of sub-Saharan Africa's population is covered by health insurance, but the Bank views this as another area with potential for expansion. Most common polices are to require formal sector workers and their employers to contribute to either a private or government insurance scheme. Alternatively some large companies have their own health care facilities and buy in supplementary services when necessary to which their employees have access. Upper income groups are generally catered for by private profit making insurance plans. There has been a large expansion of the private health insurance industry recently in Zimbabwe (stimulated by tax subsidies) and Senegal and the extension of private insurance schemes is seen as a vital stimulus to increased private provision of health services (World Bank 1993a).

Policy responses to financing health care services in the 1990s particularly, but not exclusively, associated with the World Bank, have shifted the emphasis away from state provision of health care services. Pluralism in service delivery is stressed with inputs from private profit making medical organisation, non government and charitable non profit making organisations and the government health sector. On grounds of both equity and efficiency greater cost recovery through direct payments by health service users, rather than reliance on revenues generated by taxation, is advocated. The equity argument depends crucially on the assumption that there is an untapped capacity to pay for health services in African communities that cannot be realised through progressive income taxation. The idea is that through cost recovery governments can concentrate on supplying cost effective public health

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<sup>6</sup> World Bank 1993a;110

and essential clinical services to the poor. Groups of people who are unable to afford to pay health services therefore have to be targeted and safety nets constructed so that the welfare of the poorest and most vulnerable is not adversely effected by new policies.

Whether greater equity is attained greater use of cost recovery depend on two factors. The response of household to the new or increased charges (discussed in the next section) and the ability of governments to construct and implement a viable and efficient system of targeting. It is worth briefly examining the advantages and disadvantages of targeted welfare systems before going on to analyze our main topic household responses to user fees.

Targeted welfare programmes can raise social welfare if they enable transfers from richer to poorer groups to take place more efficiently than under other government programmes. Furthermore financing targeted programmes can be less costly than financing programmes that have universal coverage if contributions to government revenue through tax or government insurance schemes are limited in their scope.

Targeted schemes require the implementation of cheap and simple systems which identify 'the poor'. If income is used to define those eligible problems arise first with deciding upon the appropriate minima and second with finding an administratively amenable way for people to prove they fall below it. In sub-Saharan Africa data on incomes, prices and other variables relevant to drawing a poverty line are usually scarce. Problems of asymmetric information abound as for subsistence farmers, informal sector workers and the self employed there is no clear proof of the household's income. To properly assess many household's eligibility can be a costly task for government administration and also for the household if gaining exemption certificates from the appropriate authority entails high time and transport costs.

Using attributes that are fixed or life cycle contingencies are criteria for targeting that avoid the some problems associated with means testing in a developing country. Fixed attributes can be defined by, for example, the geographic location of the household, the amount of land it farms, the type of dwelling it lives in or whether it is female headed or not. The advantage with the fixed attribute criterion is that it is far less demanding of

administrative capabilities than other systems. Life cycle contingencies, such as pregnancy, birth, being under five years old, disability or specific types of sickness share the administrative advantages of fixed attribute criterion. The success of either using fixed attributes or life cycle contingencies to provide safety net for the poor depends on the extent to which the poor fall into the categories or contingencies chosen (A.B. Atkinson and J. Hill, 1992). In general targeted schemes can fail in two ways; when their benefits 'leak' to the 'non poor', outside the targeted group and when they fail to reach the poor, their targeted group (Cornia and F. Stewart, 1993).

Administrative costs to households and governments, the difficulty of identifying the target group and the welfare costs of policy failure are reasons to prefer systems of general subsidy over social safety nets. The impact of risk and uncertainty on the poor is also a relevant consideration. Burgess and Stern (1992) point out that if policy can reduce the probability or consequences of adverse outcomes from macroeconomic changes or exogenous shocks are reduced then the standard of living and social welfare increases. As the 1992 drought in Southern Africa showed risks faced by the vast majority of the agricultural sector's population are likely to be highly covariate. Policy makers cannot always be entirely sure of the environment they are operating in, commodity price changes, changes in domestic prices due to SAPs and climatic changes can make it difficult to assess exactly when and how much intervention is need to prevent chronic deprivation. Systems of universal subsidy in the form of free provision of certain public goods and services seem better fitted to allow higher standards of living, in the sense that risk is reduced, than social safety nets which may or may not catch people before they hit the ground.

## Section 2. How Gender can Influence Household Responses to User Fees

The effect of introducing charges for previously free health services or increasing their price on the demand for health care services depends on decisions made within the household. In the absence of any increase income the extent to which household demand for health services alters depends on the willingness of the household to substitute away from expenditure on other goods and services. The greater the willingness to give up consumption of other goods and services in favour of health services the more price inelastic

is the demand for health care.

Microeconomic theory depicts the household as making decision about time use and consumption given the assets they possess and their preferences. Assets include labour, land and capital and returns to these assets therefore define the budget constraint. Given preferences between current and future consumption, work and leisure and different bundles of goods and services the household maximizes welfare subject to its budget constraint. The demand for health care will be reflected in household's preference for future over present consumption and in the preferences shown in consumption of different bundles of goods and services. A household's potential future consumption will depend on the amount of present consumption it is willing to forgo to make to save and make investments in its human capital, the health and education of its children for example and its physical capital, for example its land. The demand for health care will be affected not only by the household's willingness to spend money on health care services but also indirectly through its pattern of consumption as spending on food, tobacco alcohol and housing for instance will influence the likely need for health care (Behrman, 1988).

How then can gender influence the demand for health services? Why is household income alone insufficient to explain patterns of household preferences and predict the impact of higher prices on the demand for health care services? Outlined below are four reasons why an analysis of gender needs to be explicitly taken into account when examining the likely impact of user fees on household welfare.

First health care is one element of the reproduction of the household. As such it forms part of most women's work load. In its broadest sense health care is inseparable from the provision of food, water and hygienic/ sanitary conditions for the household as well as the care of young children. This can alter perceptions and tastes for health care vis a vis other commodities.

Second in sub-Saharan Africa, particularly in rural areas women have quite separate command over sources of income which are often destined for particular expenditures, especially related to children. It is therefore important to consider the intra household division of cash income. Will the

household allocate more cash to pay for what are considered women's expenditures?

Third women consume health care services as non sick people. When pregnant and with young children women consume both preventative and curative health services consistently and regularly over a continuous period of time. They therefore have a distinct relationship to health care services and are specifically effected by changes in its provision. This special relationship is likely to shape their perceptions of the value of health services. Women of child bearing age are likely to have different 'preferences' for health care services than other members of the household. The strength of the bargaining position of the younger adult women in the household could thus be a key determinant of the amount of money forthcoming for health care. Their bargaining position may vary according to the size and nature of the household, whether it is rural or urban or the work of its wage earners, factors which may not be captured by household income differentiation alone.

Fourth women are the target group for health services educative and preventative health campaigns because of their regular contact with health workers through pregnancy and child care and because this aspect of health care relates directly to work carried out by women for the household. For example, public health and hygiene and vaccination campaigns are often aimed specifically at women. Again this may alter women's perceptions of the value of health care services and effect their preferences. Leslie et al (1988) observe that primary health care strategies to reduce infant mortality such as oral rehydration, immunizations, improved weaning practices and growth monitoring,

'.. all demand that women first understand and accept new knowledge about their children's health and then incorporate them into new activities in their schedule.'<sup>7</sup>

So, in many communities knowledge about health care is likely to be highly gendered. The only channels by which men can learn about new methods of health care will be through their own direct contact with medical services and

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<sup>7</sup> Leslie et al 1988;310.

through listening to their wives neither of which may be particularly efficient channels of communication.

Household responses to user fees depend therefore on preference structures which will be partially determined by intrahousehold dynamics. Particularly relevant is the extent to which the use of the returns to assets are fungible between household members (Behrman, 1988). For example, will any increased income received from higher supply prices for cash crops marketed by men be transferred to health expenditures which have traditionally been considered women's expenditures? Or if unwaged household work increase as, for example, domestic production of goods and services substitute for commodities formerly bought in the market (due to decreases in the real value of cash income) will all household members suffer an equal reduction in their leisure time? Thus, *inter alia*, the extent to which household members are prepared to substitute away from leisure or extend their working day and the flexibility of the sexual division of labour will determine health outcomes.

The final outcome, manifested by household's changing time use and final consumption patterns, of the introduction of user fees will depend thus on social and political contingencies as well as economic constraints and opportunities. The outcomes of cost recovery policies will vary according to socially specific circumstances and thus will differ between countries and perhaps between different groups within countries. The following section considers therefore the situation in Zimbabwe in order to incorporate some appropriate stylized facts into the analysis.

### Section 3. User Fees in Zimbabwe.

Zimbabwe has had an impressive record in health care provision. At Independence in 1980 the Government of Zimbabwe adopted a health sector plan that emphasized primary health care provision. Since 1980 the percentage of children fully immunized increased from 25% to 86%; infant mortality rates decreased from 86 to 61 per thousand live births and life expectancy increased from 55 to 59 years (Hongoro, 1993).

In common with other sub-Saharan African countries low GDP growth rates in the 1980s combined with high rates of population growth have put health care

finances under strain. Although real levels of government health expenditure increased through the early part of the decade, from the early 1990s the value of the Ministry of Health and Child Welfare's (MOHCW) budget declined in real terms by 15% in 1991 and 13% in 1992. In per capita terms (1980 Z\$) expenditure peaked at \$19.4 in 1989 and declined to \$18.35 and \$12.26 in 1991 and 1992 respectively (Government of Zimbabwe, various years). In 1991 the MOHCW, within the framework of the Economic Structural Adjustment Programme (ESAP), started to enforce user charges (with exemptions for people earning less than Z\$150<sup>8</sup> per month) to increase cost recovery in the health sector. Systems of patient charging had existed at independence but they were generally not enforced and their real value decreased over the years. By 1990 cost recovery account for only two per cent of the MOHCW's budget. ESAP thus marked a break with past policy as fees were introduced for all levels of health facilities, from the central hospital to rural clinics. The system of charges is complex with fees levied for each separate blood test and X ray for example. Exemption from payment was given to those earning certain specified minimum incomes<sup>9</sup> and those with tuberculosis, leprosy or mental illness (Renfrew, 1992).

Evidence on the effect of user charges are drawn from data for 1990-1992 a period that incorporates the severe drought of 1991 and is prior to the raising of the exemption income from \$150 per month to Z\$400 per month. The latter figure is estimated to cover all but 5% of the population (World Bank 1993c). Comparing use of health facilities in 1990 to 1991 a survey showed that there was a significant decline in their use and that it increased for facilities further up the referral hierarchy (Hongoro, 1993). Utilisation of maternal services seem to have been particularly badly effected as unbooked maternal cases increased by 29% as more mothers opted for home deliveries (Hongoro, 1993). The number of babies born before arrival at Harare Hospital increased from between 77 and 109 per quarter (1990) to between 98 and 130 per quarter (1991-2) indicating according to one doctor, that the strict enforcement of user charges had led to larger number of women taking the ris

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<sup>8</sup> The poverty datum line for a family of 2 in 1988 was Z\$186 (Loewenson, Sanders and Davies, 1989) so many poor people were expected to pay for health services.

<sup>9</sup> Z\$150 in 1991 raised to Z\$400 mid 1992. (The rate of inflation was 40% between 1991 and 1992.)

**Table 4. Comparisons of Household Incomes in Kambuzuma, Zimbabwe during the first year of Economic Programme for Structural Adjustment (ESAP).**

<b>Household Characteristics.</b>				<b>Real change.</b>
		1991	1992	
	Number of dependents.	3.2	3.8	
	Average size	5.57	5.74	
	Mean monthly income.	Z\$932	Z\$1054	-34%
	Households under PDL*	23%	43%	
<b>Household Income and Financial Assets.</b>				
	Waged Work & Self Employment.	Z\$739	Z\$815	-35%
	Women's Income Generating Activities			
	Regular	Z\$196	Z\$172	-65%
	Irregular	Z\$35	Z\$42	-33%
<b>Financial Assets and Liabilities</b>				
	Monthly Savings per Household	Z\$117	Z\$189	+17%
	No. of Households	68	50	
	Average Debt per Household	Z\$155	Z\$229	
	No of Households	8	13	
<b>Distribution</b>		<b>Top 25%</b>		<b>Bottom 25%</b>
	Total Income		-23%	-55%
	Regular Expenditures		+2%	-18%
	Food Expenditure		-5%	-23%

Notes: PDL is poverty datum line calculated by households size.

Women's Income generating activities are sewing/knitting/crochet; sale of agricultural products; petty commerce; hairdressing and the sale of small livestock.

Other non wage sources of household income are lodger's rent; transfer; male offspring, female offspring; co-resident relative; non resident relative; men's odd jobs and ex husband/boyfriend.

Source: Kanji and Jazdowska (1993) Table 1;6, Table 3;8, Table 7;14, Table 8;18 and Table 17;28.

of home delivery and on encountering difficulties subsequently being admitted to hospital (Iliff, 1993). There is therefore evidence to suggest that user fees resulted in people curtailing their demand for health services. What then were the economic conditions faced by Zimbabwean households in the 1990s that meant households were unwilling to pay for health services?

Tables 4 and 5 and show data from a household survey. One hundred and twenty households from an urban high density area near Harare were sampled in July/August 1991 of which 100 were available for follow up data collection in 1992 (Kanji and Jazdowska 1993). Table 6 draws data from households in the rural areas in Mt Darwin and Ndanga districts (Hongoro, 1993).

The urban study shows that the average standard of living deteriorated sharply for Kambuzuma households between 1991 and 1992. Inflation was approximately 40% over the period and average incomes decreased by 35% in real terms. The survey showed that the total number of formal sector workers remained about the same (131 in 1991 and 128 in 1992) so household were unable to increase number of wage earners to offset fall in real wages. Women accounted for only twenty percent of the formally employed in the sample so their access to cash income was severely restricted as income from regular income generating activities shrunk by 65%. Average household size increased slightly as children and unemployed and retrenched workers of the household's extended family were incorporated into the household.<sup>10</sup>

The data suggest the incidence of the economic down turn was not evenly distributed between households. The poorer families bore the brunt of the recession as their income fell by 55% (as opposed to 23% for the higher income households) resulting in substantial cuts in food purchases being made by these households. The total number of households able to save decreased, although savings increased in real terms for those households that continued to save, suggesting once more that richer households remained relatively unscathed by the recession. The authors report that women's reduced access to cash income was, in the main, responsible for the decrease in the number of saving households.

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<sup>10</sup> large standard deviations are likely however as the sample included lodger households who are unable to increase their household's size.

Table 5 compares a breakdown of household expenditure between 1991 and 1992. The reduction in real income has resulted in households substituting away from expenditures on clothing in order to maintain or slightly increase expenditure shares of other categories. In real terms absolute amounts of expenditure on food decreased. The authors report that while the average cost of food consumed by low income households rose by 49% average expenditure rose by only 35%. They note that households substituted away from more expensive foods (meat, fruit, poultry etc) towards less expensive higher carbohydrate lower protein foods and frequently cut out midday meals. The share of health expenditure increased slightly from two to three percent, and the change in health expenditure from Z\$40 to Z\$55 implies that average real expenditure on health care has remained more or less constant. No data are present on the variance of health expenditures and from a sample of this size it might be difficult to see whether households have had to cut back on health expenditures. For example, types of illness needing long hospital stays (which would now incur a daily charge) might not occur during the sample period or illness reported to from the survey households might have been in households qualifying for exemption from charges. The authors do report that two patients with chronic conditions were no longer able to afford drugs.

Table 5. Composition of Household Expenditures in Kambuzuma, Zimbabwe. (Percent)

Expenditure	1991	1992
Clothing	12	7
Housing	10	10
Education	7	6
Health	2	3
Transport	6	5
Electricity	4	5
Remittances	6	6
Other	4	5
Food	49	53

ji and Jazdowska (1993) Figure 1;15.

However, the argument can be made that if illnesses and conditions requiring medical treatment occur randomly and the demand for health care services was unaffected by the introduction of user fees one could expect to see higher levels of real expenditures on health care after the introduction of user charges, as services previously available to the household at no direct cost now have to be paid for.

Some qualitative results from the survey shed light on the nature of the non waged work carried out by the household and support the arguments made earlier regarding the input of women's time into household health provision. The authors report;

- women are exclusively responsible for ill members of the household;
- when self care is chosen instead of visiting a doctor/ clinic women did this work;
- more domestic work & childcare was shared with female relatives in 1992 (possible because of additions to household);
  - some components of domestic work decreased as for example less meals are eaten, or clothes are washed less frequently to save money;
  - other components of domestic work increased as shopping is done more frequently (due to cash flow problems) and more time is spent searching for bargains;
- women who are employed in formal sector have greater decision making power regarding income allocation in the household's expenditures.

The data from Kambuzuma are untypical in the sense that most Zimbabweans (approximately 70%) depend on agriculture for their main source of income and are not employed in the formal sector. Conducting exit polls in hospitals and clinics Hongoro (1993) found that from a sample of 1246 people 62.3% had no formal employment.

The available evidence from rural areas shows implementing fair systems of user charges for peasant farmers has proved extremely difficult. A doctor from a rural mission hospital reports that medical costs were frequently less than the transport costs required to get to the nearest social welfare office that issues exemption certificates, so in effect even those eligible for free treatment were paying. Overall the new policy resulted in reduced demand for health services as data on hospital attendance and reports from catchment

villages show that people were not attending hospital when they were unable to pay the charges (Renfrew, 1992). A survey of 253 households in the rural areas Ndanga and Mount Darwin found 7% of households reporting an occurrence of illness did not use health services as they had no funds for fees or transport (Hongoro, 1993). The same survey also shows that rural household cannot always finance health care from their current income. Households have to run down savings or assets or borrow.

**Table 6. How People in Rural Areas Pay for Health Services.**

Source of Income	Per cent.
Borrowed from friends or relatives	29
Salary income	36
Selling Food	15
Selling livestock	3
Income from piece work	1
Remittance from urban areas	15

Source: Hongoro (1993;32-33)

Unfortunately no data comparable to the Kambuzuma survey are available to shed light on the budget allocation decisions made by rural people in 1990-2. However, indirect evidence from hospitals and clinics suggests that a considerable proportion of the rural population are unable to substitute away from other household expenditures to meet the higher direct and indirect costs resulting from user charges.

The Kambuzuma data provide a basis from which to theorize about household responses to user charges. If the health of household members is thought of as being the result of purchased quantities of health services and drugs and women's unwaged labour time, a given level of household health can be represented as an isoquant.

Figure 1 shows the health isoquant  $Z_h$ , that results from various combinations of purchased health care ( $X_h$ ) and women's labour time ( $L_h$ ) in Section I.

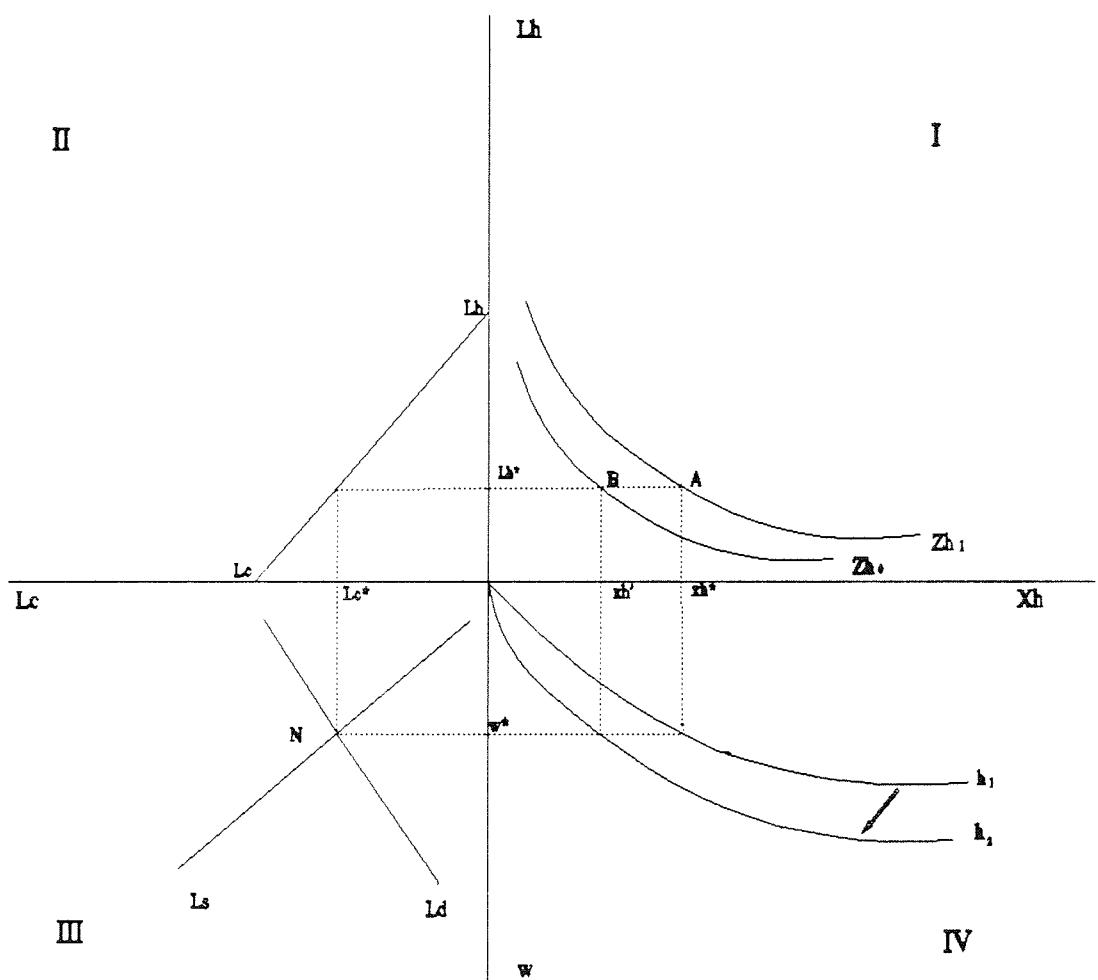


Figure 1

Abstracting from leisure, rest and unwaged labour time devoted to household activities that are not related to health, the total labour available to the household is divided between time devoted to waged work ( $L_c$ ) and to unwaged work ( $L_d$ ), shown in Section II.

The amount of paid employment a household can get is determined exogenously. Household's real income ( $y$ ) is given by the real wage rate ( $w$ ) times the number of hours spent working for it ( $L_c$ , so  $y = wL_c$ ), and is shown in Section III of Figure 1 a conventional labour market diagram.

Section IV shows a health expenditure function. Assuming a fixed proportion of household income is devoted to health care ( $a_1$ ) total expenditure on health care ( $Px \cdot X_h$ ) increases as the function moves out from the origin. Expenditure on purchased health services ( $X_h$ ) is therefore a function of income with in this example income elasticity of demand being unitary.<sup>11</sup> Higher quantities of  $X_h$  are thus associated with higher real wages,  $w$  and higher real incomes.

$$\begin{aligned} a_1 &= \frac{Px \cdot X_h}{wL_c} \\ h &= Px \cdot X_h = a_1(wL_c) \quad \text{where} \\ wL_c &= y \end{aligned} \tag{1}$$

$Px$  is the price of health services and medicines etc.

$X_h$  is the quantity of health services and medicines etc.

$h$  is health expenditure as a share of total expenditure.

$w$  is the real wage rate

$L_c$  is the labour time spent in waged work.

The health expenditure function is non linear as,

Given an initial labour market equilibrium of  $N$  (Section III) and a labour constraint of  $L_h L_c$  (Section II) the household allocates  $L_c^*$  amount of labour

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<sup>11</sup> This assumption is appropriate for samples with taken over a limited time period, or with a restricted range of incomes as health services are normally found to be income elastic.

$$\begin{aligned}
 Lc &= LS \\
 LS &= \alpha_1 + \alpha_2 w \\
 y &= wLS \quad \therefore \\
 y &= \alpha_1 w + \alpha_2 w^2
 \end{aligned} \tag{2}$$

to waged employment and  $Lh^*$  to unwaged health care work in the home. With the health expenditure function  $h_1$ ,  $Xh^*$  amount of health care services are bought and combined with  $Lc^*$  labour time to produce a given level of health services for the household shown by point A on the isoquant  $Zh_1$ .

A rise in the price of health services will shift the health expenditure function to  $h_2$  if the share of income devoted to health care remains unchanged. Quantities of health care purchased are reduced from  $Xh^*$  to  $Xh'$ . Here we are assuming an asymmetric effect on the wage and income variables real values. For the household health a rise in the price of health services has a significant effect on its real income. However the effect on the economy wide price index is not significant enough to alter the real wage to the extent that employers will demand more labour.

In the absence of change in labour resources or their allocation health services available to the household are reduced from A to B in Section I. B lies on a lower isoquant than A, which can be interpreted as a fall in the households the standard of health care.

If the household wants to maintain its standard of health care at  $Zh_1$  what then are its options? Let us suppose that it is impossible to substitute away from other expenditures to such an extent that the health expenditure share of income increases. One way of maintaining the standard of health care associated with  $Zh_1$  is shown in Figure 2.

Given  $Lc^*$  waged labour time at wage rate  $w^*$  and health expenditure function  $h_2$  the household can stay on  $Zh_1$  if its total labour is increased to point X in Section II. Point X can be reached either by a net addition of household labour hours, through extending the household's size for example, or by increasing the ratio of  $Lh$  to  $Lc$  by women extending their working day for example. Increases in household size will result in a parallel shift of  $LcLh$  outwards to  $Lc'Lh''$  in the Section II. The extension of women's working day causes the  $LcLh$  line to pivot outwards to  $Lc'Lh'$ . The end result is that the

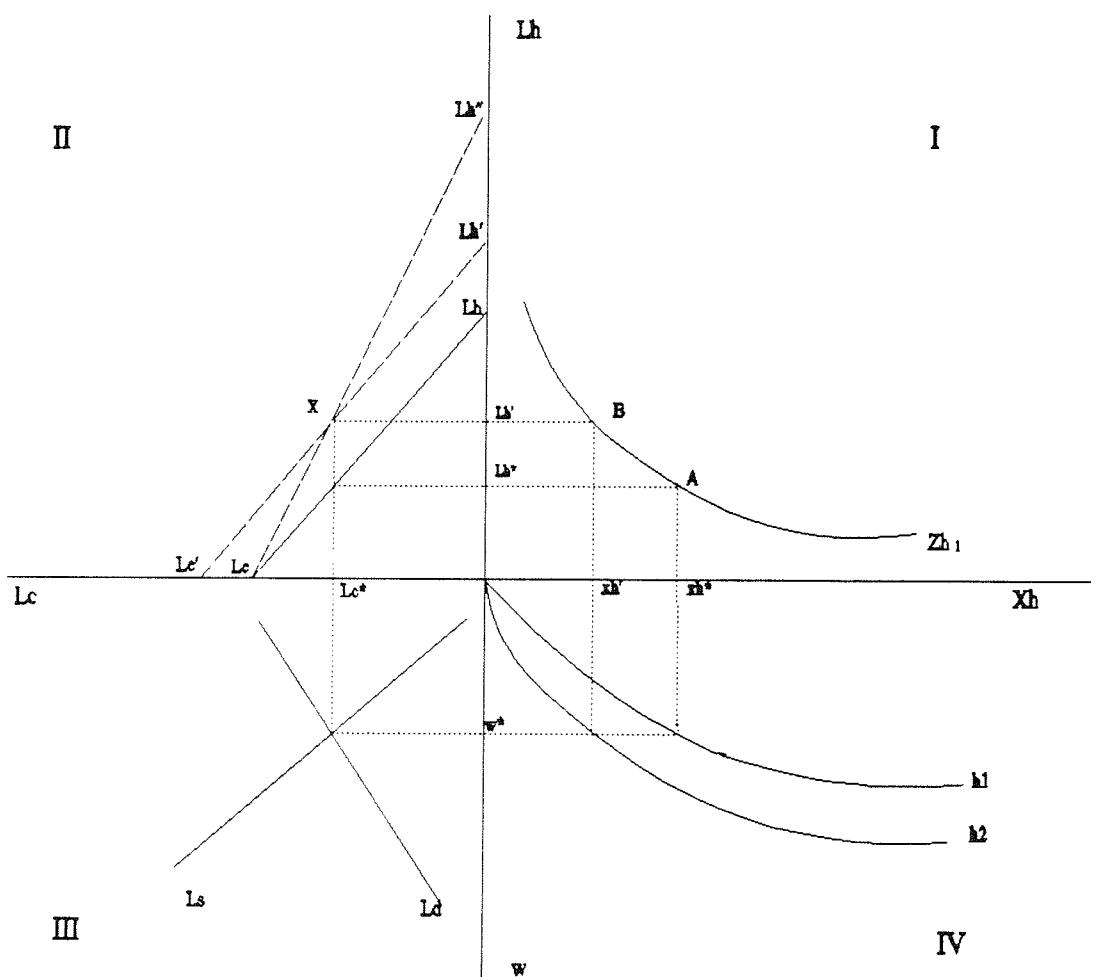


Figure 2

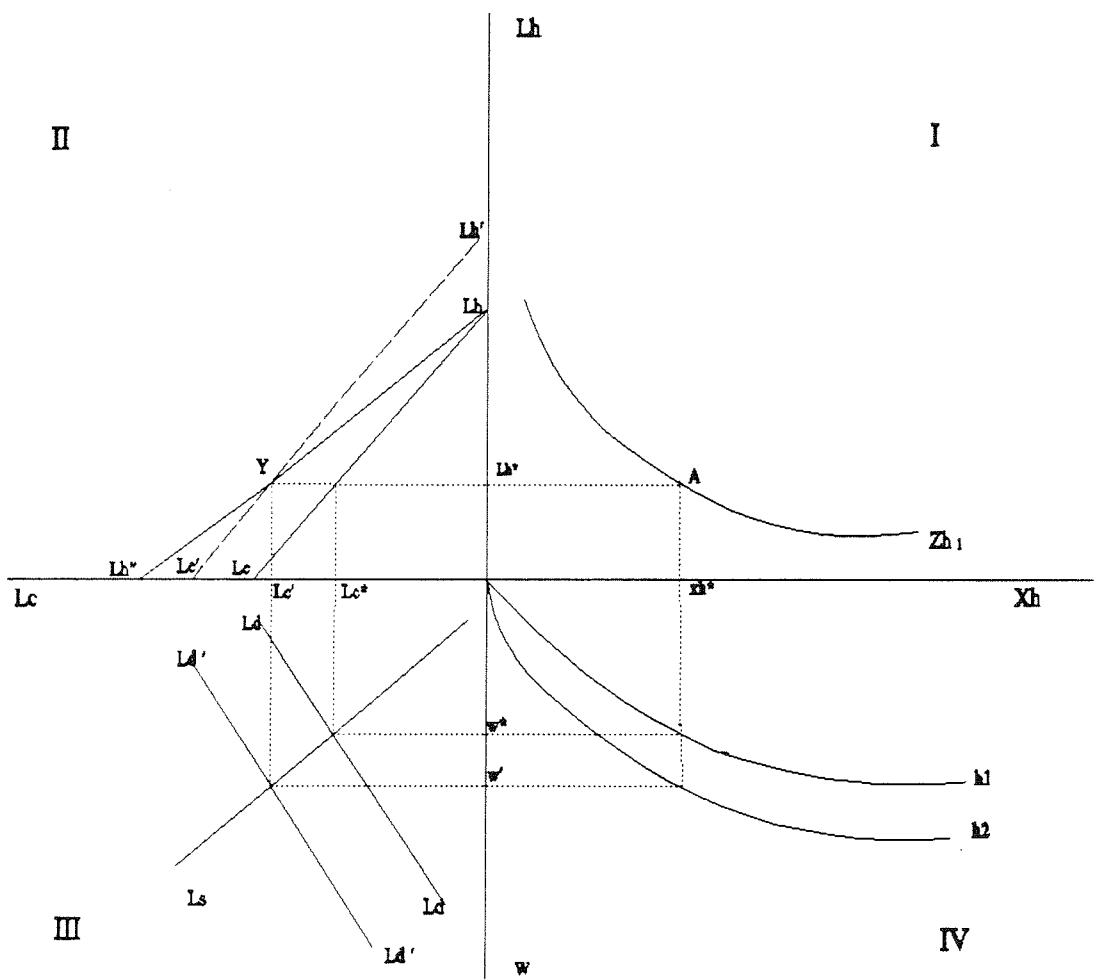


Figure 3

same level of health care is achieved through the substitution of unwaged labour hours for bought health care services. In reality there is obviously a limited extent to which this is possible but if health care is thought of in its broadest sense, then more labour time devoted to hygiene, cleaning food preparation and gaining knowledge about child health and nutrition, can in some circumstances, substitute for visits to the doctor.

Figure 3 shows what must happens if the household is to maintain its level of health care at  $Z_{h_1}$  without increasing the unwaged labour time devoted to health care,  $L_h$ , with the health expenditure curve at  $h_2$ . Section III of the diagram shows that in this case the demand for labour must increase with  $L_dL_d$  shifting outwards to  $L_d'L_d'$  and the wage rate rising from  $w^*$  to  $w'$ . Turning to the household labour allocation in Section II, it can be seen that labour resources must increase to point Y. Again this could be attained either through increasing household size, so  $L_cL_h$  shifts out to  $L_c'L_h'$  or through decreasing the ratio of  $L_c$  to  $L_h$  (a pivot in the labour time curve to  $L_c'L_h'$ ) by for example workers working overtime or taking on an additional job. This solution must be considered long run as it encompasses labour market changes, an increased demand for labour and an increased real wage rate that can only be achieved through productivity growth.

The foregoing analysis draws attention to the importance of labour time available to the household and labour market opportunities in determining the impact of user fees on health status. Implicitly the results are predicated on the assumption that there is no unutilized cash income or household assets that can be redirected towards health expenditures without ensuing reductions in households present or future health welfare. Similarly it is assumed that substitutability between other household expenditure categories and health care expenditure is limited. The assumptions are in keeping with the data presented on Kambuzuma and indirect evidence from rural areas.

Thus, the household needs to have access to additional labour hours to in order to maintain a given level of health care when the price of health care rises. If extra labour hours are available they can either be used to earn more cash income to spend on the now more costly marketed purchased health care services or to provide higher inputs of unwaged labour hours into the

health care of household members.

In the absence of opportunities for increased wage earnings (as was the case for Zimbabwe between 1991 and 1992 and is common in the initial years of structural adjustment programmes) labour time becomes a crucial determinant of household health. Thus gender becomes a relevant factor. Some *apriori* reasons cited in Section 3 and evidence from Kambuzuma suggest that women are primarily, if not exclusively, responsible for all health care related household work. Their ability to earn money and the strength of their bargaining position within the household is therefore likely important in keeping the health expenditure share of the household budget constant when money is tight and real income levels falling.

Household health thus critically depends on the ability of women to increase the number of working hours they devoted to unwaged labour, substituting (where possible) household labour time and its resulting output of services for commodities bought in the market. In this scenario, household consumption becomes more time intensive. Women's work load within the household, the extent to which they are able to substitute away from rest (leisure) and their education and access public information and services will play a key role in determining health outcomes when the cost of health services increases. Increasing household size and allowing shared domestic work with female relatives reported from Kambuzuma can be seen as a strategy to maintain health and general household welfare through the substitution of labour time for market purchases.

#### Section 4. Conclusion.

Mobilizing additional resources for the health sector in sub-Saharan African countries is essential if health related social welfare indicators, such as life expectancy, infant mortality rates and maternal mortality rates, are to improve or in some cases even become comparable with other low income developing countries.

The decade of the 1980s and the early 1990s, with low or negative GDP growth rates and generally adverse economic conditions, saw health expenditures (in real per capita terms) over sub-Saharan Africa as a whole stagnate. Structural

adjustment programmes have not provided the level of external funding necessary to remedy the chronic shortage of health sector resources. International aid makes an increasing contribution to the sector's finances in a significant number of countries but cannot be expected to substitute entirely for domestic financing, especially for the recurrent cost component of the health sector's budget.

Cost recovery by the health sector is understandably as attractive option for many African governments as it presents a seemingly viable way to fund recurrent health sector costs by mobilizing domestic resources. If combined with a strategy that provides a social safety net for the poor cost recovery implemented a system of user charges it can, it has been argued, increase equity in access to health services and even release more resources to be spent on health services that primarily benefit the poor (World Bank, 1993a 1993b).

The theoretical advantages of user charges are however not so easily realisable in practise in developing countries. Attention has been drawn to the potential policy failures that can occur in with targeted programmes. Moreover consideration of the interface between risk faced by households and levels of social welfare mean that a system of general subsidy may be better suited to increasing equity in access to health services in developing countries with large rural agriculturally dependent populations.

Evidence from Zimbabwe is particularly pertinent here. Data show that user fees resulted in a drop in demand for health services in the first year of the policy's implementation. Administratively, exemption for the poor proved extremely difficult as usually no transparent criterion existed by which they could be identified. In general, the unintended consequence was that those eligible for exemption paid more in either direct or indirect costs for health services. Zimbabwe is a country with a high level of commitment to health service provision, a well developed health service infrastructure and has higher per capita GDP than many other sub-Saharan African countries. It is therefore unlikely that other sub-Saharan African countries could implement the policy and not encounter similar difficulties. However it is still important to ask whether the problem with user fees lies in policy design and implementation, in which case the appropriate response is to reform it, or

whether its intrinsic properties mean that an alternative policy is preferable.

Incorporating stylised facts drawn from data on households in rural and urban Zimbabwe it is concluded that the impact of user fees on household labour time in general and women's work load in particular, make the policy undesirable. If no opportunities for increased cash income, from expanding employment opportunities, exist attaining the same level of health care once user fees are charged requires more unwaged labour resources to be allocated to producing it. The incidence of the extra work will invariably fall on women. Additional unwaged labour hours can accrue to the household either through household size increases or by substitution away from rest and leisure. When there are no extra people to provide the extra working hours changes in the relative returns to waged and unwaged labour (shown by the change in slope of LcLd in figure 2) occur. The implicit returns to unwaged labour are lower as more working hours now produce the same amount of household health care.

Considerations of gendered nature of the demand for health care services and the intrahousehold allocation of labour resources lead therefore to the conclusion that the implementation of user fees is not likely to be gender neutral in its incidence. Women will usually bear a disproportionate amount of the costs this policy imposes on households. Designing alternative policies to mobilize domestic resources for the health sector is therefore preferably to improving systems of user charges .



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