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The availability of drugs: what does it mean in Ugandan primary care

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Abstract

Availability of drugs is often considered the most important element in quality of health care in rural African settings. Using material collected through mainly qualitative methods, this article examines drug availability in six primary health care units in southeastern Uganda. Emphasis is on the differing perspectives of three categories of actors: health planners/managers; health workers; and users of health services. The main concern is the availability of choroquine and penicillin, especially injectable forms, and the needles and syringes for administering them. Health sector reforms have changed the conditions for managing, supplying, and using drugs through decentralization, user fees, and privatization. Patients were dissaatisfied when they were not able to obtain all drugs prescribeddd at the health unit. Government health units both compete with, and use, local commercial sources of drugs. They need to attract patients and, with user fees, they are more able to supplement the drug kit supplies provided through the Ministry of Health. There is a need to revise policy in light of the new situation. Dialogue and realism are needed in order to create policies that respect both good medical treatment standards and the concerns of frontline workers and their patients. The exercise of rethinking the meaning of drug availability in primary health care calls for methodologies examining the chenging context of health care and the positions of different categories of actors, at national and district setting, to appreciate gaps existing between drug policy and practice.

Keywords: Drugs; Uganda; Availability; Primary care

1. Introduction

The ongoing health reforms make two common assumptions on availability of drugs. The first is that rational drug management will ensure availability of drugs. If need is calculated on the basis of morbidity patterns, if essential drugs are supplied and managed effectively, and if medicines are prescribed according to rational professional standards, then drugs will be available. This technical or knowledge-based premise is often the position of national ministries of health and

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international organisations such as World Health Organisation. The second assumption is that quality of care, especially drug availability, will improve with user fees and that it must do so to justify them and increase user satisfaction. When users become customers, their expectations must be recognised. Thus, availability of drugs can be influenced by user demands. This is the market-driven premise, promoted by principals in ongoing health reforms. There is a logical tension between these two premises and health workers are often squeezed between them. If they are responsive to user demands, they may not be 'rational' drug managers according to technical standards.

This article examines drugs policy and practice at primary health care level, with a focus on the inconsistencies in the policy and the gap between policy and practice. It does so by describing the contrast in perspectives between different kinds of actors—policy makers, health workers and service users—in the context of the actually existing situation at one point in Uganda's health care history. The underlying question is: how appropriate and consistent is Uganda's drug policy? We believe that this question is best answered by considering the significance of drugs for people at different positions in the health care system, with emphasis on the realities that health workers and their patients face.

The problematic balance between supply, utilisation, and expectations/demand emerged during a larger study of quality of care in rural primary health care units in southeastern Uganda. Special attention is given to two kinds of injectable drugs, chloroquine and penicillin, because they provide such a powerful and concrete example of the issues involved in that simple phrase, availability of drugs. Examining injections as part of the more general issue of availability of drugs also contributes to the recent debate on injections in developing countries [1,2].

Several recent studies have pointed to the central role of drug availability in community perceptions of quality of care in African settings [3–5]. Community satisfaction with government health services, and thus utilisation, was found to depend highly on whether drugs were obtainable. As fees are introduced, drug availability becomes even more crucial. As Van der Geest and colleagues [5] reported from Zambia, people want medicine for their money, and they are 'rational' consumers in wanting more medicine for less money.

A few studies have examined drug availability in terms of different categories of actors. Asenso-Okyere et al. [6] showed how Ghanaian health workers dealt with availability in the new era of 'cash and carry' (fees for drugs). Some made the available drugs more accessible to poor patients by reducing the amount prescribed (and thus the price); others over-prescribed the readily available drugs in order to generate income. In Zaire, Haddad and Fournier [7] concluded that the 'technocratic' concerns about drug supply and distribution were not necessarily congruent with public perceptions of drug availability and accessibility. Gilson [8], working on health care reform in Tanzania, identified problems in supply, prescription, wastage and community demand, all affecting availability of drugs. Her analysis, like ours, included the perspectives of health managers, providers, and users.

2. Background

Reforms in the Ugandan health care system were initiated during the early 1990s. They were a central part of efforts to rebuild the health services following years of decay resulting from civil conflict and economic difficulties of the 1970s and 1980s [9]. Structural adjustment policies included restructuring and rationalizing the staffing of government health services, and decentralizing decision making and administration in order to bring control and responsibility closer to the people affected. Shortage of government resources and underfunding of the health sector was partly offset by large donor programs, including the Uganda Essential Drugs Management Programme (UEDMP) funded by DANIDA. But recurrent expenditures such as salaries to health workers were not donor priorities. Despite great progress in restoring services after the deterioration of the bad years, there are still shortages of drugs and

equipment, criticism from users, and poor morale among underpaid health workers.

The issue of quality of care must be seen within the context of the overall picture of health care. The health care system in Uganda is a composite of several types of care provision more or less inter-linked. The most obvious of these, and the one upon which this article focuses, is the government hierarchy of primary health care units (dispensaries and health centres), and rural district hospitals. It is estimated that these facilities provide about 40% of care, while NGO units, such as mission hospitals, account for 25%. The rapidly proliferating private sector of clinics and drug shops is said to account for the remaining 35% [10]. These figures do not reflect the parallel care services of traditional healers, and the proportions are rough. But they are important for understanding the evaluation of quality of care, and in particular the question of drug availability.

Up to the early 1990s government health services were in principle free. In practice patients often had to pay 'under the counter', but many remember with nostalgia an era of free medicine. Cost sharing was introduced, although not as official national policy, for practically all services in government health units. The implementation of user fees was left to districts and individual health units, resulting in different fees and fee structures in different units [11]. Commonly there was a consultation fee as well as a flat fee for drugs (regardless of type or quantity). Sometimes there was a low and a high drug fee depending on whether antibiotics and injections were prescribed. Funds collected at health units were all retained there and used for staff incentives (about 50%), buying additional drugs and supplies to supplement drug kits (30%), funding minor repairs at the unit (10%) and facilitating the HUMCs (10%) [12]. Most of the health units collected very small amounts from user fees, contributing less than 10% of the total recurrent expenditure at such units [13]. Okello et al. [14] found that user fees contributed 0.2 to 7% of recurrent costs in Government facilities but up to 47% in NGO facilities. Although the income from user fees was small, the significance of these funds was great because they were immediately available in cash and could be used at the discretion of the individual facility. Each government health unit had a health unit management committee (HUMC), consisting of community representatives, charged with managing the resources of the unit.

In March 2001 in the heat of a presidential election campaign, and after our quality of care study was completed, user fees for health care were officially abolished. A 100% increase in attendance at government health units ensued [15], although figures have since fallen off. The issues described in this article are still unresolved. Oteba [16] reports shortage of key drugs and supplies at the facility level, which he attributes to most districts failing to assess and cost their drugs needs. Continuing fieldwork by members of our research team since the abolition of user fees confirms that drug supply is a problem. During a follow up visit to one of the hospitals in our study in early October 2002, it was found that the most important drugs had been out of stock for the preceding 3 months. The solution is to refer patients to purchase drugs at nearby shops and private clinics, often owned by health workers. The reality is that user fees have been removed from within to outside the health facilities; in effect payment is now made to private providers of drugs and essential medical supplies. Thus the contradiction between the rational drug use policy and the market approach to health care is even more marked than it was when user fees were paid at government units.

3. Methodology

The study, carried out in 1996, elicited views on quality of care held by planners/administrators, health care workers, and users of services in one rural district. It documented actual practices of care in six health units. After analysis of the material, meetings were held with the District Health Management Team (DHMT) and the staff of each of the six health units to discuss the findings and suggest recommendations for improving quality of care. The study was part of an ongoing research-training program, Tororo Com-

munity Health (TORCH) under which work in the district began in 1995 and continues until at least 2004.

The methods used were mainly qualitative. Interviews and group discussions were held with seven members of the DHMT, 15 members of sub-county health committees, and 45 members of HUMCs (all considered planners/administrators). All health workers present at the six units during the 2 months of the study were interviewed. Users included past and potential patients (people living in the catchment area of the unit) as well as actual patients/caretakers using the services on specific days. Focus group discussions (54) were held with women, men, and youth in the community close to each of the six facilities visited. Current users (160) were interviewed as they left the facility after treatment.

The six health units studied included one rural hospital out patient department (OPD), three health centres, a sub-dispensary and an NGO dispensary operated by the Roman Catholic Church. In these facilities, observations were made of the structure and process of clinical care. Data on drugs was collected by: observing the consultation, diagnostic, injecting and dispensing processes in 140 consultations and interviewing 160 patients on exit. Prescription patterns were examined in a random sample of 100 records in each unit from the patients' register for the previous year. Drug storage facilities were seen, and stock card records reviewed. In a few cases, the opening of drug kits and verification of kit contents was observed. Manuals and guidelines on drug use were reviewed.

The materials from focus groups and interviews were entered into a data base (ASK SAM) and grouped according to four major areas of concern for quality of care: drugs, technical skills, communication, and access. Views about drugs expressed by policy makers, providers and users were compared not only in terms of what they said, but also in terms of what they did not say. That is, we assessed the amount of interest they showed in various aspects of drug availability and use. In analysing the qualitative material we gave special attention to statements that elucidated the patterns we observed and documented from the patients' registers such as the heavy use of injections and antibiotics.

The study was carried out in a decentralised district, Tororo (now divided into Tororo and Busia Districts), in the southeastern part of the country. With high fertility (total fertility rate of 6.9 children per woman) and high child mortality (231/1000) [17], there was an enormous felt need for health care in the district. Drugs were in demand for treating malaria, acute respiratory infections, diarrhoea diseases, AIDS and a host of other health problems.

4. Findings

Availability of drugs at primary health care units was influenced by a variety of factors, according to the study findings. Fig. 1 summarises the interrelationships at work and can serve as a framework for presenting the results of the study.

4.1. Sources of drug supply

The main sources of drug supply for all public health units were the essential drug kits received through the UEDMP. The contents of the kits are based on the Essential Drugs List list, first defined in 1991 and revised in 1996. Two types of pre-packed kits were delivered to rural health units and hospital outpatient departments every quarter. Most of the smaller health units were supplied with three basic drug kits and one supplementary kit (for antenatal and maternity care) quarterly, while standard health centres received five basic and two supplementary kits and the hospital OPD got six basic and two to three supplementary kits. Most units reported that drug supply was regular, rarely delaying beyond 2 weeks of the expected time. National Medical Stores delivers kits regularly to the district, which sends them on to the health units as needed or as transport is available. In all units, at least one member of the HUMC verified opening of the essential drug kits by signing the packing list.

Kit supplies could be supplemented from the district medical stores, which had drugs bought by the district, as well as drugs provided by special

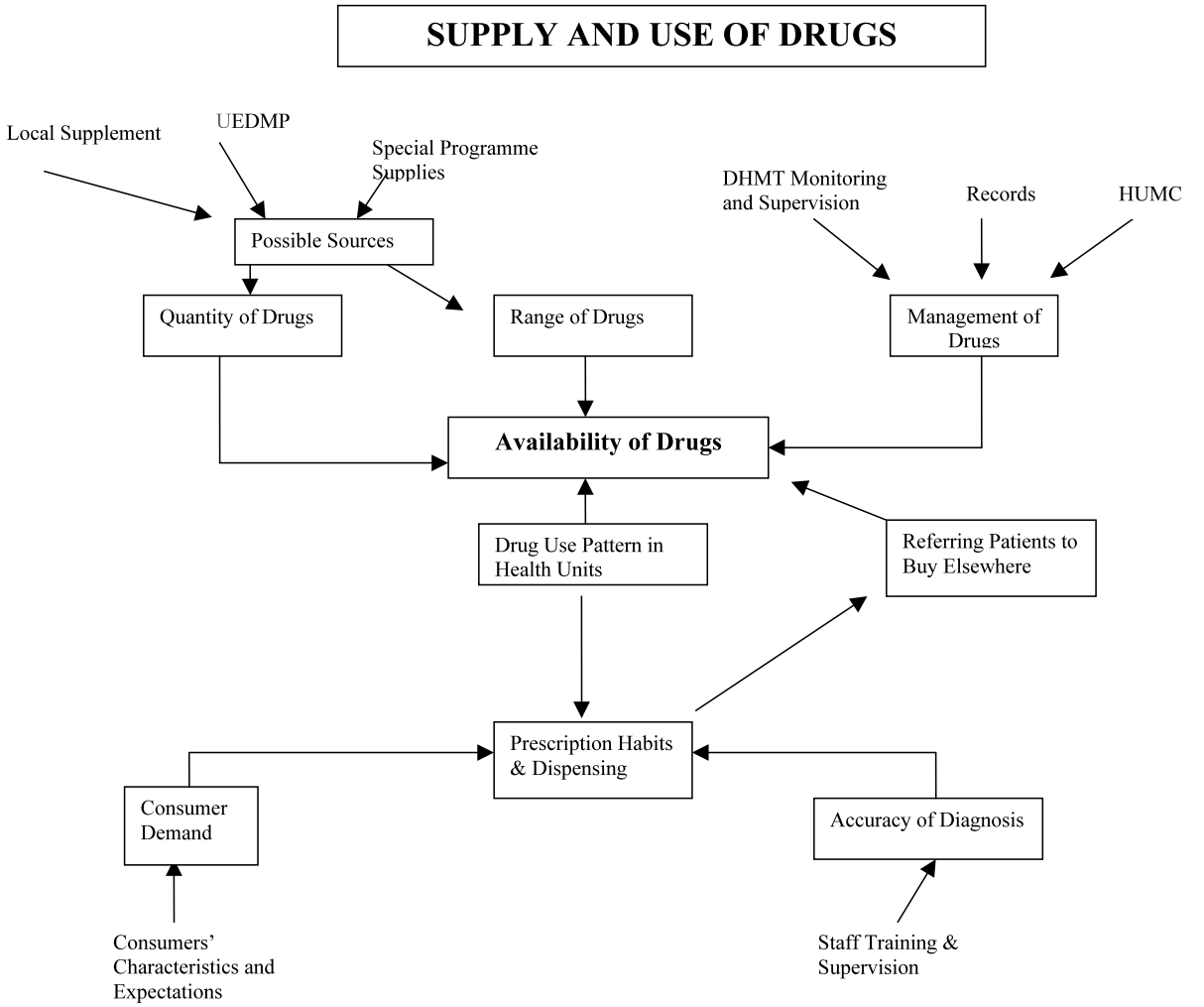

Fig. 1. Process of drug supply and use in primary health care units.

vertical disease control programs—either routine vertical programs or emergency epidemic control efforts. These included drugs supplied by the Control of Diarrhoeal Diseases (CDD) and Tuberculosis and Leprosy Control Programs.

Health facilities also procured drugs, needles and syringes from drug shops/pharmacies in local trading centres and nearby towns using funds raised from cost sharing. These supplies either went into the unit's general stock or, at some facilities, were sold separately at a small mark-up to patients. In one health centre drugs were procured weekly by the in-charge on the advice of staff of the unit. In smaller units, the in-charge took this responsibility when the need arose.

Patients were referred to drug shops, often in the vicinity of health units, to buy drugs temporarily out of stock or never stocked at the units. In several cases, these private clinics and drug shops were reported to belong to health providers in the public units.

The NGO dispensary did not receive drug kits. Its medicines were provided as demanded and afforded from the diocesan medical stores in Tororo. The unit was able to purchase all that was locally deemed necessary, if there was money

to pay for it. There was no limitation to the range or amounts of drugs the unit could purchase and it was well stocked with all essential medicines. There was a drug use records system quite similar to the stock control cards in the government units studied.

Planners and administrators at national and district level were mainly concerned with the drugs supplied in kits through the EDMP. They emphasised sufficient numbers and timely delivery of kits, proper drug storage, ensuring safety from theft and damage, and correct procedure in managing the supply and accounting for the stock. They had no consistent policy on drug supplementation and paid little attention to health unit practices in this regard. The District Inspector of Drugs was critical of private commercial sources of drugs, but health unit staff viewed them pragmatically as a convenient way of ensuring supply. Drugs purchased locally were not usually recorded together with the EDMP stock; for most of the units, local purchases were a de facto practice rather than an official procedure. For the users of health services, what was important was to be able to obtain all the drugs needed from one source; they were dissatisfied when the fee paid at the health unit did not actually cover all the treatment.

4.2. Types of drugs available at health units

The volume and range of services planned for delivery at a particular level of care determined drugs supplied to health units. Higher-level facilities received more kits and they were also expected to use a wider variety of drugs and procedures. This was reflected in the National Standard Treatment Guidelines [18] which specifies the level at which different drugs should be available. For example, intravenous solutions were not to be used at health centres or below, since workers at these levels were not supposed to put up drips. Many antibiotics and second and third line anti-malaria drugs (Amodiaquine and Quinine) were not availed to health units by the district, because they were reserved for hospital use as were many drugs for chronic conditions.

The most commonly used categories of drugs were antimalarials, antibiotics, and analgesics. For the first two, injection forms (and, therefore, needles and syringes) were in high demand. Amounts of these types of drugs contained in the basic and supplementary drug kits are shown in Table 1.

The basic kit contained enough injection chloroquine to cover about seven adult doses (5 ml of 40 mg base each). Thus a small rural health unit receiving three basic kits could supply 21 doses, while the hospital outpatient unit could provide 42 of such doses of injection chloroquine quarterly. Similarly, the basic kit contains only 25 adult doses (0.8 mu each) of injection Procaine penicillin 3 miu/benzylpenicillin 1 miu. Given that a minimum of five doses is recommended to treat pneumonia, the kit will serve five such patients. The supplementary kit is mostly for use in maternity services, thus the provision of second line treatment (sulphadimidine/pyrimethamine-*s*/*p*) for severe malaria. Since no disposable needles and syringes were included in the kits, health

Table 1
Common drugs supplied in kits

	Basic kit	Supplementary kit
Antimalarials	Chloroquine (150 mg base) tabs 3000, Inj. Chloroquine(40 mg base) 35 ml	Suphadioxine (500 mg)/pyrimethamine (25 mg), tabs 30
Antibiotics	Pen V tabs (250 mg) 2000 inj. Procain3 miu/benzylpen 1 mui 20 vl, benzylpenicillin 1 miu 10 vl, co-trimoxazole (100+20 mg) tabs 1000, sulphadimidine (500 mg) tab 1000, tetracyline (250) cap 300	Inj. Benzylpenicillin 1 miu 20 vials
Analgesics	Paracetamol (500) tabs 2000 acetylsalicylic acid (300 mg) tabs 2000	
Injection equipment/supplies	10 ml re-usable syringes 8 pc, re-usable needles 12 pc, distilled water 20 ampoules	2 ml re-usable syringe 2 pc, 12 re-usable needles, distilled water 20 ampoules

workers would need to re-sterilise injection equipment constantly.

In order to expand their range of drugs, health centres and dispensaries used income from user fees to make local purchases. The supplementary drugs recorded in this study included antibiotics (gentamycin, capsule ampicillin, adult co-trimoxazole tablets), third line antimalarials (mainly quinine tablets/injection), needles and syringes, and intravenous fluids and sets. However, health unit record keeping on this point was not stringent, and the flexibility enabled by local funds would have allowed procurement of other types of medicine as well.

It was notable that the National Standard Treatment Guidelines specified 27 items for use at health centre level that were neither included in the kits nor wholly provided from the district store. It was unclear how health centres were supposed to obtain these drugs in order to have a range adequate to follow the Guidelines. Presumably they would have to purchase them locally.

4.3. Diagnosis and prescription

Health workers of varying levels of qualification offered treatment. At the hospital OPD, there was always a Clinical Officer (Medical Assistant) on duty, and this was usually the case at the health centres. But in the absence of Clinical Officers, nurses or even nursing aides saw the patients. The sub-dispensary had only one trained staff member, an enrolled midwife. In-service training was ad hoc and very few providers had attended any workshop related to their field of work.

Diagnosis was mainly symptomatic and unsupported by laboratory investigations. Patients or caretakers reported complaints and simple physical examinations were usually made. Where laboratory facilities did exist, they were either not functional due to shortage of equipment and supplies, or treatment was prescribed without waiting for results of laboratory tests. Copies of the National Standard Treatment Guidelines and the Uganda Essential Drugs Manual were available at all the units, but researchers found that they were not used during the clinical consultations observed.

Table 2 shows three dimensions of prescription patterns derived from a random sample of 100 records in each unit's Patient Register.

The rate of use of antibiotics was high. Except at the hospital OPD, more than half of patients attending the units were given antibiotics. The pattern of polypharmacy, defined as prescription of three or more drugs, was pronounced at three of the units. The most common combination of drugs from records was chloroquine, penicillin and paracetamol tablets. Analgesics were regularly given as a course of treatment (e.g. three times a day for 3 days) rather than leaving it up to the patient to take as needed.

Injection rates ranged from 35% to as high as 81% of patients. With the exception of those attending the hospital OPD and one of the health centres, about three quarters of patients received an injection. In comparison, the Essential Drugs Manual suggested that no more than 15% of patients should be treated by injection [19]. The injections were almost all chloroquine, procaine penicillin fortified (PPF) and crystalline penicillin (benzylpenicillin), prescribed for complaints of fever on the presumption of bacterial infections or malaria.

Health workers said that the frequent injections were given in order to satisfy their clients. As one staff member stated: "In this area...if you do not

Table 2
Prescription habits in six study health units, Tororo district

	H/C 1 (%)	H/C 2 (%)	H/C 3 (%)	Sub-Dsp (%)	Hospital OPD (%)	NGO Clinic (%)
Injection	79	81	49	61	35	71
>2 drugs	97	32	34	93	17	81
Antibiotics	82	67	55	60	32	94

prescribe an injection for a patient, you have more or less not given him any treatment and they go away saying you are a bad health worker''.

Many of the patients were small children with fever who had already been given oral medication purchased from shops before coming to the health unit. Since their parents perceived that tablets had failed to cure the child, they wanted a 'stronger' treatment. But health workers also justified injections on medical grounds as a way of ensuring compliance for a very sick child. They noted that young children often presented with vomiting and might not be able to retain oral drugs. Many health workers shared their patients' conviction that injections work faster than tablets.

4.4. Sufficiency and adequacy of drugs

The essential drug kits, the backbone of drug supply for rural units, were expected to last 3 months. A new kit was to be opened only after exhausting the contents of the previous one. But the medicines were used at very different rates. Oral antibiotics, chloroquine, and analgesics tended to run out of stock quickly. At health centres, injection drugs lasted 1–2 weeks in the seasons of heaviest demand. Depending on the season, the length of time since opening a new kit, and the drug supplementation practice of the unit, patients and staff experienced shortages of popular drugs. According to the exit interviews, about 40% of patients were told that some or all of the drugs they needed were not available, and they were referred to go and buy them from shops.

The kits contained no disposable needles and syringes and this was a grave inadequacy in view of the fact that disposable equipment was strongly preferred. Neither health workers nor patients wanted to use the 'public' needles and syringes shared by many people. Therefore, patients often brought disposable needles and syringes with them: about half of these were previously used, and they were brought wrapped in a piece of paper. Disposable needles and syringes were also available for sale at most units, but their price was not included in the drug fee. The small business of selling disposables at the units, operated by health workers, was a way of coping with the inadequacy of the official supplies. At the NGO dispensary most patients were injected using new disposable needles and syringes provided by the unit. At this unit, as at all the others, needles/syringes were given to patients to take home after use. For those patients who received more than one injection in the course of their treatment, only one needle/syringe was used.

Different categories of respondents expressed different perspectives on availability. Planners and managers at the district level, often reflecting the position of the UEDMP, were of the opinion that drug supplies for government health units were sufficient. They were mainly concerned with quantities and believed that shortfalls were due to poor management and irrational prescribing habits. Local planners, particularly members of the HUMC near to the realities at units, felt there was need for more drugs. As representatives of local communities, they gave high priority to a sufficiency of medicines for those who came to the unit and paid their fees. But they were not concerned about the technical details of which drugs ran out first, and which drugs not included in the kit should be purchased.

Providers were concerned about both the sufficiency of drug supply (having enough of the important drugs) and its adequacy (range in relation to the various disease conditions encountered in their practice). They noted that injection medicine tended to run out quickly, and were unhappy not being able to open a new kit when some of the heavily used drugs got finished. In some cases, health workers adjusted injection prescriptions to fit drug availability. Injection penicillin (PPF) was given as two doses instead of the expected five. Providers felt this was better than denying treatment to other equally sick patients. One health worker remarked that sending patients to buy drugs that were out of stock, encouraged them to go directly to private clinics and drug shops even though they had to pay more. They complained about the limited range of drugs such as antibiotics and anti-malarials in the essential drug kit, mentioning the lack of adult co-trimoxazole tablets for chronic diarrhoea and drugs for treating STDs.

Health workers felt that the lack of disposable needles and syringes was a problem for several reasons. Due to AIDS epidemic, it was vital not to endanger one patient by using an inadequately sterilised needle from another patient. But the task of constant re-sterilisation was burdensome given the high rates of injection. Moreover, the water in which equipment was boiled came from boreholes with high mineral content and this meant that after repeated sterilisation, syringes began to leak and needles got blocked from the hard water. The solution they had found was to ask the patients to come with their own (assumed clean) needles and syringes. After use they handed the equipment back, sometimes flushing it out first.

Users differed in the extent to which they distinguished between specific kinds of drugs. Some knew the names and indications for drugs not available at public facilities such as quinine. Many knew the most common drugs: PPF, chloroquine and paracetamol or aspirin. But the most important distinction, used by everyone, was that between tablets and injections. Practically speaking, drugs included not just the medicinal substances, but also the needles, syringes, and 'injection water', used to mix PPF.

Patients saw drug availability in terms of two dimensions: whether they actually received all the drugs prescribed at the unit; and whether they got 'good' drugs, meaning injections. Moreover, availability was not just a question of the presence of drugs, but also of access in terms of the cost of obtaining them. A key issue was whether payment of the user fee ensured getting all the drugs prescribed. One patient remarked: "I may also say that I have not understood [cost sharing] because even water for injection, we are told to buy it from drug shops".

Availability of the desirable drugs was sometimes seen to depend on ability to pay. As one man recounted: "I once went without money and another time I went with cash money to the nurse. There and then, she changed her mind and became good and I got good treatment—an injection and good handling". Users at the hospital OPD revealed by their attendance patterns that they differentiated between availability of drugs and 'good drugs'. A new kit was usually opened on Mondays, and attendance was much heavier on Monday and Tuesday when the 'strong drugs' for the week had not yet been used up.

Users were concerned about diversion of public drugs to private use by staff. They felt this had developed into another survival strategy for poorly supported health providers in public health units.

On the matter of injection equipment, most users were wary of having to share needles and syringes with people they did not know. They were not confident that sterilisation procedures would ensure their safety, and instead preferred to use needles and syringes reserved to them alone (though these might be shared within the household). This personalised equipment was seen as their property, not to be appropriated by health workers after use. Both patients and health workers knew that disposable equipment ('for single use only' as is written on the package) could be re-used.

5. Discussion

The issue of drug availability is seen as fundamental for quality of care by all three of the categories of actors involved in primary health services. However, their perspectives were different and this must be acknowledged clearly in order to understand the current situation and find ways to improve care. We need to know how different concerns about drug availability play into one another. We also need to consider how the different positions on drug availability are shifting as health care reforms progress. Policy will need to change as new realities take shape.

5.1. Different positions on drug availability

The health planners and managers at national, district, and even health unit level dealt with drug availability in terms of securing supplies from the UEDMP. The emphasis was on delivering the kits, record keeping, accounting for the use of medicines, and stocktaking. Mismanagement of drug supplies has long been identified as a problem [20,21] and 'leakage of drugs' at district and health unit levels has been linked to health workers'

survival strategies [22,23]. The concern with supply, control, and security of drugs has taken precedence over attention to how they are used. Manuals and guidelines have been produced to encourage rational use of drugs; both the UEDMP manual and the National Standard Treatment Guidelines were available in the units studied. But there were no systematic efforts on in-service training and supervision in diagnosis and prescription practices, although evidence from several Ugandan studies shows how important this is [24,25]. Managers did not address heavy use and consequent shortages of antibiotics and injection medicines.

Health workers did not relate insufficiencies of these drugs to their own diagnostic and prescription practices. They saw problems of drug availability as due to three factors: the small quantities of the most necessary drugs supplied in the kits; the medical need to cover large numbers of infectious diseases; and the need to satisfy their patients with plenty of injections. They responded to these problems by using possibilities inherent in the health sector reforms, either purchasing supplementary supplies for the unit out of user fees, or referring patients to buy drugs from private providers (who were often government health workers).

Users of services saw problems of drug availability in terms of whether they received all the drugs prescribed at the unit; they were not so concerned about where the health facility had obtained its supplies so long as the user fee ensured getting the drugs. They discriminated in that they wanted 'good' drugs to be available. Most users appreciated injections, but this was partly because they had learned to expect them. Injections had become the standard of quality care because health workers gave them so routinely.

5.2. The interconnection of problems

The problems of drug availability are interlinked, just as the perspectives and interests of the different categories of actors affect one another. In southeastern Uganda, the specific problems concern antimalarials and antibiotics, especially the injectable forms. New ways of dealing with these problems are being worked out as planned and unplanned transformations occur in the structure of health service delivery.

The kits, which provide the basic drug supply at health units, reflect essential drugs policies and priorities. The range of antimalarials and antibiotics in the kits is limited, to discourage inappropriate use of second or third line drugs for common conditions. Since UEDMP has a policy of reusable hypodermic equipment, there are no disposables in the kits. With the prevailing prescription patterns, health workers find the kit supplies insufficient and inadequate.

Health workers see these prescribing practices as rational, given that lack of accurate diagnosis requires presumptive treatment and polypharmacy. Patients in turn have learned to expect that 'good' treatment includes injected antimalarials and antibiotics. This creates continuous shortages of these popular types of medicine.

The frequent use of injections posed an equipment problem that was solved by the heavy use of disposables. The fear of HIV transmission through unsterile needles provided a strong motivation and justification for using disposables; this also avoided the inconvenience of having to sterilise constantly. The equipment was treated as the patient's property and returned to the owner after use. This solution to the problem of availability had two consequences. The cleanliness of the equipment was treated as the patient's responsibility; the health workers did not sterilise the used needles and syringes brought from home. Giving disposables back to patients meant that most households had needles and syringes, which also facilitated giving injections at home [26]. If health workers did not provide injections in the primary health care units, they knew that patients could get them through other channels.

In the era of user fees, it was in the interest of health workers to give service that was appreciated by the 'customers'. With the proliferation of private clinics and the many drug retailers, government and NGO health units were facing stiff competition. Given that injections and 'cover' use of antimalarials and antibiotics had become standard, they needed to uphold the standard in order to keep patients coming back.

User fees, administered at the discretion of the unit, allowed supplementation through local purchases—an option that became possible as part of the health reforms. The wall between the controlled stock of the health unit, and the uncontrolled variety of the private market had been breached. There was no policy or procedure for supplementation. It proceeded in an ad hoc manner without safeguards to ensure quality or appropriateness of drugs. For example, injectable quinine, rather than sulphadoxine/pyrimethamine tablets, was being bought to treat malaria that did not respond to chloroquine. Thus the 'rational' principles of the essential drugs program were being undermined.

6. Conclusions

Health care reforms, including cost sharing, meant to reduce drug inadequacies by making care demand-driven, increase flexibility in supply and use of drugs. Greater autonomy of health units and greater 'participation' of users through cost sharing, changes the balance with effects on drug availability. When government health units are unable to supply drugs and the private sector is not well regulated, users 'participate' in their own health care by buying on a private market that is even more flexible in terms of availability and use.

In this article we have shown that there is a contradiction between the policy of encouraging rational use of drugs through supplying essential drug kits and regulating what health units may provide on the one hand, and on the other requiring service users to pay fees. While policy makers debate the merits and modalities of these approaches, health workers and their patients are dealing with a reality of drug shortages, demand for certain kinds of drugs, and a private market in drugs that is a ready supplement or alternative to the planned care provided in government units. In light of the gaps and inconsistencies presented here, several specific policy recommendations can be made.

There is need for a new policy on drug supply that addresses the realities of drug use at the units. The kit system attempted to determine use by fixing supply. In a general way it was successful; it influenced the kinds of drugs being used by familiarizing people with common essential drugs. But it has not proved effective in regulating the amounts demanded and used. As the drugs are used at different rates, some items have to be supplemented. To some extent the problem of drug supplementation is now being addressed. Consistent with the planners' focus on drug availability and management, the Ministry of Health has recently started disbursing supplementary funds to health sub-districts to procure priority items needed during the quarter but not adequately provided for, to minimise stock outs and erratic procurement and distribution of supplies. A pilot management program is also under way to support districts for drug management and storage at district and sub-district level [16].

This represents a beginning acknowledgement of local autonomy to procure the drugs that are actually being used. The next step is to recognise that while the provision of essential drugs in kits was crucial at one point in Uganda's health care system, the kit system has now outlived its usefulness. Greater flexibility is needed to meet variable local patterns. However, it is not just a matter of providing funds and managing supplies at district and sub-district levels. There is a need to confront the actual use and the existing sources of drugs.

The use of drugs is shaped by the easy availability of nearby drug shops, to which patients are referred for items lacking in the non-profit units. This state of affairs is likely to continue despite attempts to improve supplies at the units. Yet there are no guidelines on how to deal with this situation. Support supervision and monitoring should address the reality that many heavily used drugs are in short supply and that drugs not found in health units are sold just outside the gates in shops and private clinics. Which of these sources of drugs are reliable? Are drug shop attendants trained to fill the prescriptions written by health facility staff? Dialogue and realism are needed in order to create policies that respect both good medical treatment standards and the concerns of frontline health workers and their patients.

Policies on injections are out of touch with reality. Planners and managers need to appreciate the value that injections have for both health workers and patients. The policy recommendation of 15% injection frequencies is currently an impossible goal. Instead, it would be more useful for managers and health workers to develop a policy on needles and syringes that can actually be practiced under current circumstances. The policy of re-usables has failed and should be replaced with a policy of supplying disposables and effectively disposing them (rather than giving them back to patients). It would be better to concentrate first on safe injections. Later, efforts can be made to reduce the frequency of injections.

Finally, we would like to emphasise that this exercise in rethinking the meaning of drug availability in primary health care has general methodological implications. We have tried to show the value of problematizing the concept of drug availability by examining the changing context of health care and the positions of different categories of actors. This necessarily entails delving into the specificity of a national or even district setting to determine which drugs are desired, how health units obtain them, where else patients can get them, and what gaps exist between drug policy and practice.

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