

RESEARCH

# Injections in Uganda – cause for concern

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**T**HE popularity of injections in Uganda is not new. But in the "old days" of the 1960s, when Uganda was considered to have one of the best health care systems in Africa, injections were mainly administered by health workers in the officially recognised system: the government run dispensaries, health centres and hospitals; the missionary medical services; and, in urban areas, the private clinics run by licensed medical practitioners. The Pharmacy and Drug Act of 1970 made it illegal for any lay person to own a syringe for injection. Although anecdotal evidence suggests that even then untrained neighbourhood 'needle men' provided injections in their communities, the scale of this 'informal' activity was limited.

Now all this has changed. Beginning in 1971, fifteen years of civil war and economic decline weakened the government health care system. Facilities fell into disrepair and the government could not afford to supply free medicines, to maintain adequate supervision or to pay health workers a living wage. Private profit oriented health care proliferated, including licensed and unlicensed private clinics and drug shops. Survival strategies of government health workers included treating patients in their homes, selling medicines, and demanding 'informal' payments for services at government units. By the middle of the 1980s donors began to mount programmes to rehabilitate Uganda's health care system and to deal with the growing problem of AIDS. Resources flowed in, but it was not always possible to control their use because the debilitated formal sector had developed an intimate symbiotic relationship with a loosely defined informal one. Drug supplies, equipment and human resources flow through a system in which the boundaries between the formal and the informal are clear on paper and vague in practice. In this situation, injection equipment, injectable medicines, and the provision of injections are no longer the monopoly of trained staff working in officially recognised units.

At the same time, morbidity rates are high. Malaria remains the number one cause of morbidity and mortality overall. For adults, AIDS is now the most common cause of death. Acute respiratory infections, diarrhoea, anaemia, meningitis and tuberculosis contribute to ill health, together with common conditions like helminths and infected sores. People experience a strong and often acute need for treatment, and they are well disposed toward biomedicine as the first recourse for most sicknesses.

## Investigating injection practices

Such widespread misuse of injections in Uganda and many other developing countries has long been of great concern to WHO, and in 1990 it was decided to instigate a collaborative study on injection

practices<sup>1</sup>. This study formed part of that research. Its purposes were: to examine the extent to which injections are used, the ways in which they are perceived, the indications for which they are given, the sources from which they are obtained and the hygienic level of their administration.

The methods were designed to collect data from the point of view of users and providers. A household survey was carried out in two regions: Busoga (Jinja, Iganga, and Kamuli Districts) in Eastern Uganda, and Ankole (Mbarara and Bushenyi Districts) in Western Uganda. In each region, two communities were selected in urban, semi-rural, and remote settings. Sixty households with children under five were randomly chosen for interviews, yielding a total of 360 households in each region. At the initial interview, questions were asked about the last injection received by anyone in the household. A fortnight later the household was visited again in order to enquire about symptoms and use of injections in the confined two week period. Provider-oriented methods included the use of open-ended questionnaires, a review of prescriptions and actual treatment received and the observation of hygienic measures in 35 provider facilities. These included government and nongovernmental organizations' units, private clinics and various 'non-formal' sources of injections, such as drug shops.

Ethnographic fieldwork was undertaken in Busoga, Eastern Uganda, for one year in 1992-1993, which allowed opportunities for participant observation, in-depth interviews and informal discussions with users and providers of injections. The primary focus of the ethnographic research was the social relations of therapy in family, neighbourhood and institutional settings. This part of the research provided qualitative and contextual data that supplement the material collected as part of the WHO collaborative study.

A more detailed description of the methods and results of the WHO Uganda study will be available in a forthcoming WHO report. The ethnographic work is being analysed in a Ph.D. thesis by the first author for the Institute of Anthropology, University of Copenhagen.

## Frequency and types of injection

Results of the household survey showed that injections were commonly used. In the confined two week period, there was at least one injection in 28% of the 720 households. Of the injections received, 85% were therapeutic; the remainder were immunizations. The frequencies were similar in Eastern and Western Uganda: 25% and 30% respectively. However, there were considerably more injections given in urban and semi-rural areas than in remote ones. Given that the regions studied are predominantly rural, the overall frequency is probably less than 28%. Even if we estimate that between a fifth and a quarter of all households receive an injection in a two week period, the prevalence of injection therapy is still high.

The medicines injected are almost exclusively antibiotics and antimalarials: 95% of the therapeutic injections were chloroquine, procaine penicillin fortified (PPF), or crystalline penicillin. These are considered essential drugs in Uganda; all three are included in the drug kits supplied to primary health care units through the Uganda Essential Drugs Management Programme. They are also readily available from other sources; businessmen import these drugs to meet the high demand. Thus Ugandans use and misuse a limited number of injectable medicines which have been identified as appropriate to the overall health needs of the country.

In order to examine the specific indications for which injections were perceived relevant, our study asked questions both about hypothetical conditions and about the actual symptoms for which injections had been given. For five hypothetical tracer conditions, respondents said they would prefer injections (either alone or in combination with oral therapy) as follows: fever – 65%; cough and cold – 28%; vomiting – 27%; acute diarrhoea – 24%; intestinal worms – 9%. In practice, fever was the most common symptom reported in the confined two week period and it was also the symptom most likely to be treated by injection, whether it appeared alone or in combination with other symptoms.

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Researchers found that many injections are given in unhygienic conditions by untrained providers.

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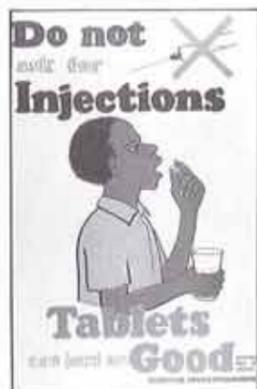
## Injections... cont'd from pg. 11

Several points are important for understanding the frequent use of injections for fever. One is that in the Bantu languages of Southern Uganda, the term used for fever (**omusudha** or **omusujja**) has a broad semantic range. It covers rise in body temperature, cough and cold, joint pains and other symptoms. Although the local term is used as a translation of malaria, it is much wider. In our questions, we asked specifically about perceived elevation in body temperature, but the term is often used without specifying symptoms precisely. Lay people have learned that biomedicine considers chloroquine and penicillin injections appropriate for (some kinds of) fever, and they seek them as treatment for the whole range of symptoms included in the category **omusudha**. They know from experience that some of these symptoms can develop into fatal conditions. It is also important to remember that diagnostic procedures, even in established medical institutions, are generally poor. Laboratory tests are seldom given, so treatment is almost always presumptive.

## Sources of injections

An analytical distinction was made between those facilities that are formally recognised and those that are not. Government units, from rural dispensaries to hospitals, NGO facilities and licensed private clinics are considered legitimate sources of injections by the Ministry of Health. Non-recognised sources include drug shops, unregistered clinics, informal providers, neighbours and relatives who give injections in homes. For the total sample, the last injection received was in the 'formal sector' for 71% of households. However only 29% were given in government facilities; 42% of households reported that they had received their last injection from a private unit, either church run, or privately registered to a medical professional. The 'informal sector' was the source of the last injection for 29% of households; 16% of the total sample had received the last injection at home, while 13% had gone to a drug shop or unregistered clinic.

The analytical distinction between the formal and the informal sectors does not necessarily correspond to that between professionally trained and untrained providers. In recognised health units, diagnosis, prescription and administration of treatment are sometimes done by untrained staff like dressers and nursing aides. Trained nurses, midwives and medical assistants may treat neighbours in their homes or in unregistered storefront clinics. In Eastern Uganda, where it was possible to determine the qualifications of the person who administered the last injection, half of the 359 injection providers were trained paramedical staff, while the other half had no formal medical training.



Poster campaigns alone are not sufficient to change public belief in the power of injections

ing. Discussions revealed that most people do not believe that formal training is necessary for the administration of injections.

The Uganda Essential Drugs Management Programme suggests that no more than 15% of prescriptions should include an injection. The proportion was well over this figure in the 26 facilities from which 30 consecutive prescriptions were examined. In Eastern Uganda, 68% of patients received an injection, while the figure for Western Uganda was 60%. The rates were only slightly higher in private than in non-profit facilities. The lowest rates, 38%, were from two government hospital outpatient departments in Western Uganda.

## Perceptions of risk

Health planners are concerned about the overuse of injections because they may cause paralysis, abscesses and infection with hepatitis or HIV. Restricting the use of injection, proper administration and careful sterilisation are the recommended means of reducing risk. Lay people in Uganda are aware that injections may cause complications. In the household survey respondents were asked whether any household member had ever experienced problems from an injection. Of the 720 households, 51% reported having had complications at least once (some had had more or several kinds); 47% had experienced abscesses; 5% had had allergic reactions; and 2% reported lameness. Respondents generally did not blame these on poor hygiene or inappropriate injectable solutions. Rather they referred to personal qualities of the provider; a provider with a 'bad hand' may give a bad injection.

In Uganda today the greatest risk in the minds of users and providers alike is the transmission of HIV. Messages from the AIDS Control Programme emphasise the dangers of using and sharing unsterile needles and syringes. There are essentially no intravenous drug users in Uganda; the warnings about needle sharing served to strengthen the mistrust people already had of the government health services. Many are apprehensive of the 'communal' sterilisation in health units; they are well aware that health workers are demoralised and unmotivated in their work. They do not like the idea of using the same needle as someone else - 'you don't know what diseases other people have.' The fear of AIDS has had unplanned consequences for injection practices in Uganda.

In order to avoid 'public' needles, many households try to obtain, by purchase or otherwise, their own needles and syringes. The household survey revealed that 63% of households in Busoga (Eastern Uganda) and 83% in Ankole (Western Uganda) possessed injection equipment. Some families kept separate needles and syringes for adults and children. Patients can thus bring their own equipment when visiting a health facility. The ownership of equipment facilitates 'informal' treatment too; if a child is sick at night, a neighbour or family member can administer an injection at home. Injectable chloroquine and penicillin are readily available in most areas; 21% of households in Busoga and 34% in Ankole had injectables at home at the time of the survey.

Private ownership of needles and syringes has been encouraged by health workers at many facilities. They give or sell equipment to the patients and ask them to bring it again at the next visit. In some cases they encourage them to purchase it from local drug shops, which usually stock disposable needles and syringes. In remote



Injections have come to represent the power of medicine. This Sudanese hospital even uses a syringe as a symbol of medical care, yet inappropriate and unsterile injections are a health hazard

areas, where most patients are poor, health centres may sell needles to the patients while syringes are provided, on the assumption that needles are more likely to transfer infection than syringes. The patient is responsible for cleaning the equipment at home. This practice is in part an AIDS prevention measure that has developed to counter the mistrust of communal equipment. It also fits in with a general pattern in which patients at government facilities are required to provide their own supplies of medicine and even paper upon which to write the diagnosis and treatment. Just as a maternity patient must bring soap, a plastic sheet, and disposable gloves, so must other patients supply needles and syringes.

The policy of the Uganda Essential Drugs Management Programme and the Expanded Programme on Immunization is to supply reusable needles and syringes. In a country where disposable needles and syringes are not discarded, but reused until the needles are bent or blocked and the graduation markings are worn off the syringes, it is better to use equipment that is designed for continued use. But disposable equipment has been supplied through AIDS control programmes and by well-meaning donors. It is also brought into the country through private channels, which are probably the most significant source of disposable injection equipment.

Thus the law forbidding lay people to own needles and syringes is completely ignored in a practice that has spontaneously developed. The fear of AIDS, together with the de facto 'cost sharing' that evolved during the years of shortages in government facilities, has not only put greater responsibility for one's own health in the hands of the layperson; it has also put injection equipment and injectable medicines there. Here, as is often the case in developing countries, there is a great gap between policy and practice. There is no coherent policy relevant for the actual situation.

## Conclusions

This study has shown that injections are a very common form of therapy in Uganda. The medicines injected are penicillin and chloroquine, both relevant to common diseases in the country, but probably not appropriate for all the cases in which they are administered. Injections are given by a wide range of providers; about half of those administering them have no formal training in how to do so. The weakening of government health services and the continuing high levels of morbidity have encouraged

private, informal and home care. This trend, together with the fear of AIDS, has made injections more easily available to people. Ownership of syringes and needles is widespread.

Attempts to deal with the health hazards posed by frequent, inappropriate and unsterile injections should address the whole range of providers as well as users. Training sessions should be offered in particular to nurses' aides, dressers, and informal providers. Simple messages should be developed about indications and procedures for injections. For what symptoms and in what doses should penicillin or chloroquine be injected? What steps are involved in giving a proper, safe and sterile injection under local conditions? Although the messages for lay people and health workers may differ in complexity, they should be similar in content. Lay people must be given standards by which to evaluate the care they pay for. Knowledge in the 'formal' sector diffuses to lay people in any case, but it is often distorted in the process. It is better to inform people properly in the first place.

The mistrust of 'communal' sterilisation should be addressed specifically. It is instructive that parents accept common use of immunization equipment. Partly this is because the risk of HIV infection from small children is not considered grave; but it is also the case that the immunization programme has provided steam sterilisers and made a concerted effort to train health workers in proper methods. Sterilisation is often done publicly so that parents witness the procedure. Perhaps this same approach could be used to develop more trust in the administration of 'public' therapeutic injections.

The private ownership of needles and syringes must be acknowledged as a common pattern and steps taken to ensure proper sterilisation of home equipment when patients bring it to health facilities. In the longer term, private possession of needles and syringes is not desirable. In order to discourage it, the causes of this trend must be recognised. This issue should be discussed at district and local levels by the health management committees who should formulate a realistic and workable policy concerning injection equipment. □

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## Reference

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