Operational research projects in DAP
An annotated inventory

Action Programme on Essential Drugs
World Health Organization
Operational research projects in the Action Programme on Essential Drugs

An annotated inventory

Geneva, October 1996
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1. Introduction

The WHO Action Programme on Essential Drugs performs two critical functions. The first is to cooperate with Member States and international, bilateral and nongovernmental organizations in the formulation and implementation of national drug policies and essential drugs programmes. The second is to provide conceptual leadership and advocacy in mobilizing and coordinating a global collaborative effort to improve the world drug situation.

The Programme seeks to ensure that all people, wherever they may be, are able to obtain the drugs they need at a price that they and their country can afford; that these drugs are safe, effective and of good quality; and that they are prescribed and used rationally.

The Programme has long recognized that more information is required to determine effective ways of reaching its overall goals. Acknowledgement of the many problems which characterize the pharmaceutical situation is not recent, but goes back to 1975. However, it is only in the last few years that the difficulties in developing and implementing drug policies in the complex social, cultural, political and economic environment, especially in the developing world, have been fully appreciated. The challenge is enormous: despite the fact that more than 110 countries have drawn up their own essential drugs list and over 60 have formulated national drug policies, still a large part of the world's population lacks regular access to needed drugs. Lack of government commitment, low capacity to design and implement appropriate drug policies, poor performance of the public sector (including inefficient procurement and inadequate distribution), limited affordability of essential drugs in the private sector, lack of regulatory mechanisms and quality assurance systems and irrational use of drugs are still common. In addition, during the 1980s, many developing countries experienced a significant economic decline which, combined with the introduction of structural adjustment policies, led to a decrease in the availability and affordability of essential drugs, the extension of a non-controlled private sector and a deterioration in social and health infrastructures - the public sector drug infrastructure was especially hard hit.

2. Operational research goals

The increasingly complex situation in developing countries means an ever increasing role for operational research in identifying and solving the many problems faced in implementing rational drug policies. The goal of such research is to prepare the Programme and countries to meet present and future challenges, and to identify innovative and viable approaches to ensure the availability, affordability and appropriate use of essential drugs within a framework of equity.
The Programme's operational research mandate reflects the Programme's global mandate. It aims to play a catalytic and sensitizing role by promoting and supporting operational research, at national and global levels, technically and financially; to promote and ensure the use of research results at national/global levels by decision-makers and all others concerned; and to lead and coordinate the global effort in research related to essential drugs and national drug policies.

A grant from SIDA/SAREC in 1984 was instrumental in getting research off the ground and led to its inclusion in Programme activities. Since then, operational research has been a major area of work although with limited resources.

The research undertaken and promoted by the Programme encompasses four technical areas: policy and management, supply and logistics, rational use of drugs and quality assurance. It aims to examine national and global constraints on developing and managing sound national drug policies and programmes and to fill some of the many gaps in existing knowledge of the best means of selecting, procuring, financing, and distributing drugs - especially essential drugs - and their use by prescribers, dispensers and consumers.

The research supported by the Programme is intended to lead to action by:

- answering practical problems related to the implementation and operation of national drug policies and programmes, thereby facilitating decision-making;
- testing new approaches which will aid policy formulation and implementation.

3. Programme research strategies

The Programme uses many research strategies to meet its goals. These include:

- Research which is initiated, directly funded and followed up by the Programme. This applies to the majority of the Programme's research and takes place at two levels: national and global. At the national level, health systems research is not a separate initiative but rather an integral part of ongoing essential drugs programmes and national drug policies. Most of the projects are action-oriented and seek to solve specific problems, detect constraints and test measures and intervention strategies, as identified by national authorities. At the global level, research takes place on issues that are of regional, inter-regional or global importance, that are common to several countries or when comparisons among countries are useful (e.g. drug stability).
- Research initiated by others and submitted to DAP can also receive Programme support provided it meets policy goals and is action/intervention oriented.
- The Programme collaborates with other organizations in the field of research (e.g. UNICEF) and provides guidance and support to networks
such as INRUD, DURG-AFRO, etc. and to institutions involved in operational research.

- An important aspect of Programme strategy is to provide training and technical expertise to the researchers involved in projects supported by DAP. This is to ensure the quality of the results and also to promote research capacity at country level. One approach has been to create links between research institutions in the North and the South.

- Finally, the dissemination of research results receives priority; reports are being published regularly in a DAP series with its own logo and they are distributed to a wide audience. Articles on research methodologies and results are published in international journals. Some research projects result in the publication of books by academic and other types of publishers.

This report is an additional tool to follow research undertaken with DAP support and to allow for a greater dissemination of the research results at the various stages of implementation.

4. The database

This report provides information on all the research which is supported technically and financially by the Action Programme on Essential Drugs. The report is based on information stored in a computerized database. For each research project, the database provides information on the subject, the technical area, the scope, the type of research, the researchers, the available publications and the abstract. The information contained in the abstract may be not sufficient for some users. Therefore, the reference number (OR) of each project has been provided for easy access to detailed reports of the research.

The database can also be used to search for or extract information on particular countries, technical areas or types of research. This information can be used by researchers planning or implementing similar types of research, in order to gain a more comprehensive understanding of particular research issues or country-specific situations.

Interested users of this inventory can write to the Action Programme on Essential Drugs if they wish to obtain copies of publications or reports.

While every effort is made by the Programme to support studies of highest possible quality, research skills and resources will vary from country to country. Documents in the DAP research series and in the database reflect this variation, and range from reports of very small scale studies, undertaken with minimal resources, to major global research involving substantive financial, scientific and editorial input.
5. Explanation of the terms used in the report

- **Technical areas**: this refers to the areas into which the Programme has grouped its activities:

  - **Policy and Management (PMN)**: which includes drug financing mechanisms, legislation, development and implementation of national policies and plans, situation analyses, evaluations and reviews.

  - **Supply and Logistics (SUP)**: which includes drug quantification, procurement, local production and technology transfer, storage and inventory control and distribution.

  - **Quality Assurance (QUA)**: which includes good manufacturing practices, drug registration, strengthening drug regulatory authorities, quality control facilities and inspection.

  - **Rational Use (RUS)**: which includes drug selection, prescribing patterns, people's perception of diseases and appropriate treatments including self-medication, clinical pharmacology, training programmes, information, education and communication materials and campaigns and national formularies and therapeutic guidelines.

Research activities are grouped according to technical areas in the report. The first group relates to policy and management, the next to supply and logistics, the third to rational use and the last to quality assurance.

- **Scope**:

Research projects can be country-specific or multi-centre:

  - **Country-specific research** takes place in one country only. These research projects are action-oriented and problem-solving and lead to concrete interventions. They are intended to solve specific problems, detect constraints and test measures and intervention strategies.

  - **Multi-centre research** deals with issues that are of regional, inter-regional or global importance, or issues that are common to several countries when comparisons between countries are useful. The research projects are implemented in several countries at the same time.
• **Type of research:**

Three categories have been identified for defining the research:

• *Intervention:* this research aims at testing the impact of an intervention initiated as part of the study design. The intervention may be the establishment of a new programme or new educational strategies.

• *Methodological:* this research aims at developing methodologies in the various fields of drug policy; e.g. methodologies to monitor progress, methodologies to investigate drug use, etc.

• *Strategic:* the purpose of this type of research is to generate new or additional knowledge about a situation or a problem. This knowledge may serve to formulate specific hypotheses, strategies or measure the impact of existing strategies and programmes. Strategic research can be descriptive or analytical in nature. Specific interventions are not part of the study design.

Most research projects contain more than one approach. They will be classified according to their dominant approach.

• **Country:**

This indicates the country in which a research project takes place. If one datasheet covers research implemented in more than one country, it will be indicated by the name of the Region or “Global”. The countries will be listed in the abstract.

• **Region:**

Regions can be either of the six WHO Regions (AFRO, AMRO, EMRO, EURO, SEARO or WPRO). If the research is implemented in more than one Region, this is indicated by “Global”.

• **Project reference:**

The number refers to the project identification in the programme’s managerial system.

• **Language of publication:**

The publications are in English unless otherwise indicated in brackets after each publication or document (i.e. FR, SP) - when a publication is in more than one language, all languages will be indicated in brackets.
6. DAP operational research database
Policy and management

Regular availability of and accessibility to good quality essential drugs remain problematic in many areas of the world, particularly in Africa. People often have to travel far to get to a public health facility and when they get there they may find that it has no drugs. The lack of drugs in the public sector reduces people's trust in these facilities. It also affects health personnel's ability to persuade people about the necessity of preventive measures such as vaccinations, sanitation etc. which are potentially far more important than the drugs themselves. People may have access to drugs in the private sector, particularly the informal one, but the drugs available here are often not essential, sometimes irrational and they are mostly dispensed by medically unqualified sales assistants or peddlers.

The causes of the drug shortages in the public sector are complex and depend on the socio-economic situation of each country as well as the financial and human resources that it has at its disposal. Sometimes the main problem is lack of funds to procure drugs. That may be a result of socio-economic trends outside the health sector and sometimes outside the country, for instance structural adjustment reforms or devaluations (such as the CFA devaluation). The roles and functions of the public sector versus the private sector in health are results not only of health policies but also of the political and economic developments over time in particular countries. People's treatment strategies with regard to health care and drugs reflect such wider socio-political issues as well as cultural perceptions of appropriate treatment providers.

Sometimes the question is one of making the most of the existing resources or drug supplies so that waste of money or drugs can be avoided. This requires appropriate strategies and management tools as well as skilled personnel to ensure that the right drugs reach the right facilities in the right quantities. In most countries, the situation is characterized by socio-economic as well as management problems.

To overcome such problems it is now widely accepted that countries should make positive efforts to achieve optimal availability and use of drugs for patients and consumers by formulating and implementing comprehensive national drug policies. Such policies must ensure that drugs of good quality, safety and efficacy are available at affordable prices to all those who need them, where and when they need them, and that they are rationally used.

The research projects reported below cover situation analyses, including analyses of the effects of international and national policies, as well as evaluations and reviews of the effects of particular health and drug policies and structures.
**Title:** Impact de la politique pharmaceutique sur le secteur pharmaceutique au Tchad

**English title:** The impact of the NDP on the pharmaceutical sector in Chad

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**Principal Investigator:** Djindji Poro
**Collaborator(a):** Peron J-Y, Ngarmadjigaye L, Habiyambere V
**Institution:** Ministère Santé publique Tchad, Coopération française, Ministère Santé publique Tchad, DAP/WHO

**Planned research period:** 01 Oct. 1995 - 30 Apr. 1996
**Effective research period:** 01 Feb. 1996 -

**Publications:**

Unpublished documents:
Proposal.

**Abstract:**
The study will be conducted in two phases: before and after the World Bank project. The objective of this study is to measure improvements in the pharmaceutical sector following the implementation of the national drug policy and the World Bank project. The indicators and the methodology described in the WHO publication "Indicators for monitoring national drug policies" (WHO/DAP/94.12) are being applied after having been adjusted to the local conditions. A baseline survey will be carried out and a monitoring system of the pharmaceutical sector in Chad will be set up later. Nationals have been trained in data collection and analysis techniques. The first results will be available in 1996.
Title: Essential drug price and availability monitoring

Abstract:
The aim of the research was to develop a system for monitoring the prices of selected essential drugs and for determining the availability of essential drugs in various outlets nationwide. A system was implemented to provide monthly reports on the prices of a basket of 100 drugs in a representative sample of drug outlets in key cities. The data collected included information on price trends, products which increased more than 10% in price, maximum savings, differences in prices of drugs according to regions and channels, the top ten selling products etc. The information is used to investigate undue price increases and promote generic prescribing and dispensing. The system has proved so successful that it has now been institutionalized with a more limited number of drugs (24 essential drugs). It has even been adopted by other sectors of the Government to monitor prices of other goods. Two manuals describing the methodology have been prepared.
Title: Impact assessment of the National Drug Policy and the Generics Act of 1988

English title:

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Principal investigator:
Kintanar OL
Collaborator(s):

Institution:
Bureau of Food and Drug Administration/Department of Health, Manila
Institution(s):

Planned research period: 01 Jan. 1990 - 01 Jan. 1995
Effective research period: 01 Jan. 1990 - 01 Jan. 1995

Publications:

Unpublished documents:
Progress reports.

Abstract:
The objective of this study is to create a monitoring system for measuring the benefits of the new National Drug Policy. Indicators have been developed and a national survey has been carried out which investigated the availability and accessibility of essential drugs, and people's awareness of the Generics Act. Results have been published in the local media and used for advocacy purposes. Indicators have been introduced in national health surveys. The implementation of the monitoring system will be further advanced by the country's participation in a global DAP supported research study: Comparative Analysis of National Drug Policies.
Title: Indicators for monitoring national drug policies

English title:

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<tr>
<td>Brudon-Jakobowicz P</td>
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<tr>
<td>Rainhorn JD</td>
<td>Centre de Recherches et d'Etudes pour le Développement de la Santé, Paris</td>
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<td>Reich MR</td>
<td>Harvard School of Public Health, Boston</td>
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Planned research period: 01 Mar. 1991 - 30 Sep. 1993

Publications:


Unpublished documents:

Abstract:
Indicators for monitoring drug policies have been developed through the following process: conducting a Delphi survey on the main components of a drug policy, and formulating guiding principles and criteria for indicator development (see WHO/DAP/92.6). A manual has been developed with four types of indicators (background, structural, process and outcome). The appropriateness of the indicators has been field tested in six countries. The manual, which was published in March 1995 (WHO/DAP/94.12), includes guidelines for data collection, processing and analysis. It will enable countries to monitor progress in the implementation of their drug policies and to revise their strategies as necessary. A diskette is also available on request in DAP/WHO to assist in entering data and calculating the indicators.
Title: Effets de la dévaluation du FCFA sur l'accessibilité aux soins et aux médicaments
English title: Impact of the devaluation of the CFA franc on access to health care and drugs in Abidjan

Technical area: PMN Research type: Strategic Project ref.: 94007 OR No.: 29A
Scope: Country-specific Country: Côte d'Ivoire Region: AFRO

Principal investigator: Institution:
Guessan Bi GB Direction régionale de la Santé publique et des Affaires sociales du Sud
Collaborator(s): Institution(s):
Portal JL Direction régionale de la Santé publique et des Affaires sociales du Sud


Publications:

Unpublished documents:


Abstract:
The objectives of this research were to measure the effects of the FCFA devaluation (50%) on the utilization of health services and on access to drugs. The first surveys were done just after the devaluation (January-May 1994), the second ones at the end of 1994, therefore the research covered all of 1994.

The analysis looked at the utilization of the urban health facilities, the average cost of a prescription (public and private sectors), the activities of a pharmaceutical wholesaler and the prescribing patterns of health personnel.

The results show:
(1) childbirth in the public sector dropped in 1994 (-28%) compared to 1993; the same applies to immunizations;
(2) drug consumption increased in the public sector (+41%) although shortages limited drug availability;
(3) the price of prescriptions from private pharmacies increased by 63% without significant changes in prescribing practices. The average number of drugs per prescription was still high (3.17) and there was no substitution for cheaper drugs. Patients did not buy all the products prescribed and spent around 5900FCFA (12 US$) per prescription; the number of patients who did not buy anything is not known.
(4) the volume of sales in the private sector dropped in the first trimester after the devaluation, but for 1994 as a whole was the same as in 1993.

All this suggests that the devaluation has increased the unequal access to health services and drugs. On one side, the upper and middle classes did not decrease their pharmaceutical consumption as shown by the stable volumes of sales in the private sector and despite a significant increase in the price of drugs (+61%); on the other hand, the poor have less access to basic care, for immunizations and child birth, for example. This calls for strong measures, such as an increase in the extension of generic drugs in the public sector, the reduction of drug shortages in the Central Medical Stores (Pharmacie de la Santé publique), etc.

The above report has already been disseminated widely by the Ministry of Health in Abidjan. A summary of the research results will be published in the Essential Drugs Monitor in 1996.
Title: Accessibilité des soins et des médicaments à Abidjan 2 ans après la dévaluation

English title: Access to health care and drugs in Abidjan two years after the devaluation

Technical area: PMN Research type: Strategic Project ref.: 94007 OR No.: 29B
Scope: Country-specific Country: Côte d’Ivoire Region: AFRO

Principal investigator: Institution:
Guessan Bi GB Direction régionale de la Santé publique et des Affaires sociales du Sud
Collaborator(s): Institution(s):
Portal JL


Publications:

Unpublished documents:

Abstract:
This research is a follow-up of that done in 1994 (OR29A) and covers the year 1995. It used the same indicators: evolution of the activities of the urban health facilities, the availability of essential drugs in the public sector, the average cost of a prescription (public and private sectors), the purchase of prescribed drugs in private pharmacies and the sales volume of a wholesaler.

The results show:

(1) A slight increase in the activities of the health facilities (immunizations, pediatrics) with the number of childbirths in health facilities remaining lower than before the devaluation.
(2) A significant improvement in the availability of essential drugs in the public sector and an increase in orders to the Central Medical Stores (Pharmacie de la Santé publique) due to a price freeze.
(3) A slight increase in the number of drugs per prescription from 3.14 in 1993 to 3.42 in 1995; the average cost per prescription in the public sector went from 3,800 FCFA in 1993 to 5,900 FCFA (12 US$) in 1995.
(4) An average cost of prescriptions in the private sector of 8,226 FCFA; patients did not buy all the drugs prescribed, the main reason being lack of money.
(5) No generic prescribing in the two sectors.
(6) An increase in the profits of the private sector (wholesalers and retailers).

Two years after the devaluation although the availability of essential drugs has increased in the public sector and the sale of drugs per unit in the private sector has benefited the patient, the share of generic drugs in the market is still non-existent and the access to drugs for the poorest very limited.

The above report has already been disseminated by the Ministry of Health in Abidjan. A summary of the research results will be published in the Essential Drugs Monitor in 1996.
Title: Analyse du système de recouvrement des coûts PEV/SSP/ME

English title: Analysis of the cost recovery system in the PHC Programme

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Principal investigator: **Waty MO**

Collaborator(s): 

Institution: Centre de Recherches et d'Etudes pour le Développement de la Santé, Paris

Institution(s):


Publications:

**Unpublished documents:**

Abstract:
A national primary health care programme at health centre level was launched in Guinea in 1988. The sustainability of the programme was based on the sale of essential drugs (The Bamako Initiative). Consequently, it was important to analyse the financial viability of the health centres, to determine the level of costs recovered and to propose solutions to problems. Drug consumption and management data from 63% of the health centres were analysed over a period of eight months. It was concluded that it was difficult for some health centres to finance their operating costs due to low utilization of the facilities and it was therefore necessary to subsidize some of them. The impact of inflation and devaluation on the cost recovery system was also analysed. It was recommended that a compensation fund in hard currency should be created to cover the increase in drug prices due to devaluation. A follow-up was done in 1990 which showed the same trends. The results have important implications for policies at national and international levels.
Title: Sudan baseline surveys 1989-1991

Unpublished documents:

Abstract:
The purpose of the study was to evaluate the impact of the Sudan Essential Drugs Programme on drug availability and rational use. The research compared results of two baseline surveys, one from 1989 and one from 1991, regarding the availability and rational use of drugs in selected hospitals (12), health centres (15) and PHC units (10) in three geographical areas of the Nile Province. It was concluded that the average number of drugs increased substantially in hospitals but only slightly at the lower levels. However, there was a marked shift towards essential drugs at all levels and the availability of these improved dramatically, especially in the previously under-served North and Central Regions. In terms of rational use, 100 randomly selected prescriptions were analysed in every health facility. The data showed the use of generic names had increased substantially at all levels. The number of drugs per prescription had increased too, which was logical in view of the improved drug supply situation. The number of injections had decreased at health centre level but remained constant at other levels. However, the prescription of antibiotics had increased at hospital and health centre levels.
**Title:** Situación del medicamento en Venezuela  
**English title:** The drug situation in Venezuela

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<td>Uzcategui DM</td>
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**Publications:**  

Unpublished documents:

**Abstract:**
This study of the pharmaceutical sector in Venezuela was conducted as part of the preparation for establishing a national essential drugs programme. Information was collected through bibliographical research. The study concluded that there was a need to develop a comprehensive national drug policy, to improve drug availability and quality, and to strengthen the drug registration system. Other important needs were the promotion of rational drug use and training in drug management.
Abstract:
The research evaluated the impact of the Yemen Essential Drugs Programme by visiting 16% of Programme health units and 12% of control health units. Availability of drugs was investigated as were the percentage of essential drugs and stock of marker drugs based on average patient attendance. Rational use was investigated by asking health workers a standard set of questions based on five hypothetical cases of illness. The last 100 prescriptions at the health units were analysed, noting the number of injections, the number containing an antibiotic and the total number of drugs per prescription.

The research concluded that the Programme had had a considerable impact on drug availability and use. When the Programme area was compared to the control area it was shown that in the first, 27 out of 31 designated essential drugs were available as compared to only 17 in the control area. More than 50% of drugs in the control health units were non-essential drugs. Furthermore, the stocks of essential drugs were larger in Programme health units compared to control units (4.1 weeks versus 14 weeks of anticipated use of seven marker drugs). Rational use had also improved, with the number of injections, antibiotics and drugs per prescription being substantially lower in Programme health units. The research cautions, though, that the restriction in the range of drugs available in the ration kits probably had a greater influence on improved rational drug use than did the health worker training alone.
Title: Dépenses des individus et des familles pour les médicaments
English title: Drug expenditure by individuals and by households

Technical area: PMN  Research type: Strategic  Project ref.: 92009  OR No.: 54A
Scope: Multi-centre  Country: Benin  Region: AFRO

Principal Investigator: Sodogandji T
Collaborator(s): 
Institution: University of Benin, Cotonou
Institution(s): 

Planned research period: 01 Jul. 1987 - 30 Nov. 1988
Effective research period: 01 Jul. 1987 - 28 Feb. 1990

Publications:

Unpublished documents:

Abstract:
This multi-country study was conducted in Sri Lanka, Thailand, Benin and Senegal. The main objective was to determine how much households in urban, peri-urban and rural areas spend on purchasing drugs. Information was also sought on the effect of income level and price of drugs on drug utilization. Additional data were collected on the type and relevance of the drugs purchased as well as the preferred type of drug outlet. The study also analysed statistical data on the costs of drugs in the private and public sectors during the previous five years. The methodology included surveys of households and customers at different types of drug outlets. The study from Benin concluded that many households were spending more on drugs than they could afford. In the two weeks preceding the survey, 53% of the households had bought drugs. Interviewed households had spent 16% of their monetary income on the purchase of drugs. In households which had experienced illness, an average of US$ 13.5 was spent on drugs. There was no statistical correlation between income level and expenditure on drugs. Thirty five percent of the households had bought their drugs at markets or from itinerant salesmen, while 30% had used pharmacies.
Title: Implications of community health workers (CHWs) distributing drugs

English title:

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<td>Adjei S</td>
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Planned research period: 01 Apr. 1992 - 01 May. 1994
Effective research period: 01 May. 1992 - 01 Dec. 1994

Publications:

Unpublished documents:


Abstract:

This study was conducted in Thailand and Ghana. The main objectives were: to determine the extent to which the distribution of drugs by community health workers (CHWs) contributes to the rational use of drugs by consumers; and to determine the extent to which the involvement of CHWs in the provision and the management of drugs influences their range of activities. The methodology in Ghana included focus group discussions (FGDs) and surveys of community clinic attendants (CCAs), their supervisors at the level of basic health services and mothers with children under five years old. Data collection tools were questionnaires with open-ended as well as closed questions. A discussion guide was used for the FGDs. The study showed that health posts were the major sources of drug supplies for community clinic attendants (community health workers) in the study areas. Other sources included private chemists shops and personal networks. Most consumers found drugs expensive, more so in communities without CCAs. The study concluded that despite their high turnover rate, the CCAs play an important role in meeting the communities' drug needs. They are accessible and available and they provide drugs at prices people can afford. The study includes several recommendations to improve the CCA scheme, among these is limiting CCAs' functions to basic curative services and the provision of drugs.
Title: The world drug situation

Abstract:
The objective of the research is to establish an information system which provides data for regular reporting on the world drug situation. The data includes global and regional drug consumption, trade, the pharmaceutical industry and country situation analyses of the drug sector. The information system is based on indicators applied to a representative sample of countries and on data collected at central level through various mechanisms. A report will be published every three to five years which will provide an analysis of the world drug situation.
Title: **Comparative analysis of national drug policies**

**English title:**

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**Principal investigator:**

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**Collaborator(s):**

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<td>Karolinska Institute, Stockholm</td>
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Effective research period: 01 Oct. 1993 -

**Publications:**


**Unpublished documents:**


**Abstract:**

National drug policies have been implemented in a number of countries in the last decade; however, no comprehensive review of these policies has been carried out. The objective of this study is to review and analyse countries' experiences in designing and implementing national drug policies. The research aims to identify conditions associated with success or failure at various stages of formulation, policy institutionalization and implementation. The study covers nine developing countries: Colombia, Guinea, India, the Philippines, Sri Lanka, Thailand, Viet Nam, Zambia and Zimbabwe. The research assesses policy performance by using both the indicators developed by WHO/DAP for monitoring national drug policies and a political mapping methodology developed by The Harvard School of Public Health, Harvard University. A workshop took place in October 1994 in Geneva to train the research teams in the use of the two methodologies in order to prepare country proposals (report available in DAP). Most of the teams have carried out the research and a second workshop was held in June 1996 to review the findings before final publication. The report of the second workshop will be published in autumn 1996.
Title: Le secteur pharmaceutique privé commercial en Afrique
English title: The private commercial pharmaceutical sector in Africa

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Principal investigator: Kaddar M
Collaborator(s): Bruneton C

Institution: Centre International de l’Enfance, Paris
Institution(s): RemeD, Paris


Publications:

Unpublished documents:
Draft reports from Algeria, Benin, Cameroon, Guinea, Mali, Morocco and Senegal, Action Programme on Essential Drugs, 1995. (FR)


Abstract:
The main objectives of the study were to analyse the role of the private commercial sector in the national market and the extent to which this sector contributes to the availability and accessibility of essential drugs and to the rational use of drugs. The research took place in seven countries: Algeria, Benin, Guinea, Morocco, Senegal, Tanzania and Zimbabwe. Additional research projects carried out by the French Development Agency in other countries followed the same protocol (Madagascar, Mali, Niger). A synthesis report will be published jointly by DAP and the French Agency. DAP will publish country reports from Algeria, Morocco and Senegal in the DAP research series. The main conclusions show that in general the availability of essential drugs had improved in the private sector, however affordability remained a major problem, although most of the countries had established regulations on drug prices. Prices in the private sector were three to six times higher than in the public sector. The study also showed that the most frequently consumed drugs were not the most essential ones and that counselling at pharmacy level was still of poor quality e.g. for infant diarrhoea most of the sellers recommended antidiarrhoeal drugs instead of ORS.
Title: Le secteur pharmaceutique dans les pays de la zone CFA

English title: The pharmaceutical sector in the CFA countries one year after the devaluation

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Principal investigator: Brudon P
Collaborator(s): Pénicaud C

Institution: WHO/DAP
Institution(s): IFRESCO, Paris

Planned research period: 01 Feb. 1994 - 31 May. 1995
Effective research period: 01 Feb. 1994 - 31 May. 1995

Publications:

Unpublished documents:

Abstract:
In January 1994, the CFA franc was devalued by 50%. This measure had important implications for the pharmaceutical sector, as most drugs are imported. The objective of the research was to analyse the consequences of the devaluation in the drug area and the measures taken by the governments affected. Two methods were used to obtain information and data: review of existing documents, articles, etc. and surveys on various aspects of the pharmaceutical sector in ten countries using a detailed questionnaire. Results, based on a large collection of data on the market, the organization of the sector, the prices of drugs, etc. in each of the countries, show that a number of measures were taken by the governments and the international community (price freezes, introduction of generic products, generic substitution, etc.) and the situation is different according to the countries and to the sectors. In a number of countries because of the price freezes in the public sector (e.g. Benin), accessibility to drugs was maintained. However, in the private sector, prices have increased everywhere, even if they have not doubled. Globally, the devaluation has decreased access to drugs but has made policy makers more aware of the need for pharmaceutical reforms. The report suggests additional measures to make essential drugs more available and accessible to the majority of the population.
Title: Implicaciones económicas del uso racional del medicamento

English title: *Economic implications of rational use of drugs*

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<tr>
<td>Arango JI</td>
<td>Colombia Essential Drugs Programme, Bogota</td>
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| Collaborator(s): | Institution(s): |

| Effective research period: | 01 May. 1994 |

Publications:

Unpublished documents:

Abstract:
This study will be conducted in Bolivia, Colombia, Ecuador, Peru and Venezuela. The objective is to investigate economic factors which affect rational drug use in these countries.
Recent experience in a number of countries in the Americas was analysed in order to review the different schemes adopted for fixing drug prices. These schemes varied from situations of total freedom for the producers to determine prices, to situations where the state, usually the Ministry of Health or the Ministry of Development, fixed the final selling price for all drugs on the basis of the production costs incurred by the manufacturer. It was concluded that "intermediate" price control schemes which combine administrative control and free market elements, appeared to be the most appropriate way of ensuring the availability of drugs, price stability for consumers and efficient regulatory procedures. However, this has to be complemented by the development of essential and generic drugs programmes to ensure efficiency and equity.

The methodology consisted of a desk study of information collected through PAHO delegations in the Region, a review of existing legislation on generic drugs and an analysis of relevant economic theory.
Title: Dépenses des individus et des familles pour les médicaments au Sénégal

English title: Drug expenditure by individuals and households

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Principal Investigator: Institution:
Proal Abdallah D
Collaborator(s):
Institution(s):


Publications:

Unpublished documents:

Abstract:
This multi-country study was conducted in Sri Lanka, Thailand, Benin and Senegal. The objective was to gather information on how much households in urban, peri-urban and rural areas spend on drugs. The study also aimed at determining the effect of income level and price of drugs on drug utilization. Information was collected on the type and relevance of the purchased drugs as well as the preferred type of drug outlet. The methodology included surveys of households and customers at different types of drug outlets. The study from Senegal showed that in the case of illness most of the households interviewed had first sought advice from a health care establishment. A third of the respondents chose self-medication as their first treatment strategy. However, 90% of the people who visited health centres did not obtain drugs from these centres, they received only a prescription. The majority of people bought drugs within three days of the consultation and 66% bought everything that was prescribed (average cost US$ 9). Funds came from people’s "solidarity networks". Parents were asked for money first, followed by neighbours and friends. The capacity of households to meet the cost of prescribed drugs seemed to be greater if the household head belonged to a religious, social, political or trade union organization. By far the majority of prescribers, 80%, did not know about the essential drugs concept and for 77% of them medical representatives were their main sources of information.
Title: Drug expenditure by individuals and households in Sri Lanka

English title:

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<th>Institution: University of Peradeniya, Kandy</th>
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Publications:

Unpublished documents:

Abstract:
This multi-country study was conducted in Sri Lanka, Thailand, Benin and Senegal. The objective was to gather information on how much households in urban, peri-urban and rural areas spend on drugs. Methods used were a baseline survey of households, a health diary kept by those same households and in-depth interviews with providers in the community. The study in Sri Lanka concluded that by far the majority of therapies chosen during illness were allopathic. However, although the urban poor in Kandy had ample access to free allopathic drugs through the public hospital, this was not the preferred source of drugs. Private sector drug outlets were preferred. Furthermore, people sought to obtain their allopathic drugs through social contacts rather than dealing with strangers at the hospital. The research showed the importance of social networks in people's choice and utilization of care. This provides an interesting perspective on the conclusions from a similar study carried out in Senegal, which stressed the importance of social networks for raising money to buy prescribed drugs. The Sri Lankan study also highlighted the importance of traditional home remedies. These home remedies were often based on medicinal plants, which were grown by the urban poor in difficult conditions in order to be at hand when needed. They were often used as a second line of therapy for common ailments.
Title: Implications of community health workers distributing drugs

Abstract:
This study was conducted in Thailand and Ghana. The main objectives were to determine the extent to which the distribution of drugs by Community Health Workers (CHWs) contributes to rational drug use by consumers. Furthermore, it aimed to determine the extent to which the involvement of CHWs in the provision of drugs and the management of drug funds influences their range of activities. In Thailand, both quantitative and qualitative methods of data collection were used, including a mailed questionnaire survey to health workers in selected health centres and district hospitals, a rapid appraisal of the village drug funds and other drug sources in the villages, field visits and case studies of villages to assess health-seeking behaviour and drug use by households. The study concluded that village health volunteers and village drug funds played an extremely limited role in the provision of drugs in Thai villages. The village health volunteers contributed very little to the rational use of drugs by consumers due to the abundance of drugs available from private and informal sources. Groceries were in fact the most common source of drugs for villagers. The study recommended that the MOH formulate and implement a policy of promoting the rational use of drugs by consumers, especially in self-medication. It also recommended that the MOH reconsider the appropriateness of the present village community health worker scheme.
Title: Drug expenditure by individuals and households in Thailand

English title:

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<tr>
<td>Pothisiri P</td>
<td>Food and Drug Administration, Ministry of Public Health, Bangkok</td>
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<td>Prasartkul P</td>
<td>Institute of Population &amp; Social Research, Mahidol University, Bangkok</td>
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<td>Charanatrithirong A</td>
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<td>Sirirassamee B</td>
<td>Institute of Population &amp; Social Research, Mahidol University, Bangkok</td>
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Effective research period: 01 Jun. 1988 - 10 Feb. 1995

Publications:

Unpublished documents:

Abstract:
This multi-country study was conducted in Sri Lanka, Thailand, Benin and Senegal. The objectives were to test a new data collection method and to collect data on drug purchasing behaviour in Thailand. School children from the sixth and seventh grades were asked to fill in questionnaires on the household's drug purchases as part of their homework. This ensured an almost perfect response rate, and involving teachers in checking the questionnaires improved the data quality significantly. Reliability was checked by comparing the responses in student completed questionnaires with the responses of corresponding household members at a later follow-up survey. It was concluded that the method is simple, convenient and quite reliable. For large scale application, though, the method should be further studied and improved. The data showed that drugs purchased from drug stores were more likely to be used by young children (ages 0-14). The average Thai household purchased drugs once every five days at a mean cost of 21 baht. The four most purchased drugs were, in order of importance: analgesics, cough and cold preparations, systemic antibiotics, and antacids and antiflatulants. The study concludes that in only 28% of cases were the purchased drugs appropriate. It is recommended that the Ministry of Public Health should include drugs in the health subjects taught at schools; and that drug store personnel should be trained and certified in the proper administration of drugs.
Supply and logistics

Essential drugs of good quality should be available when needed and at a price that the patient can afford. However, often such drugs are not available in the public sector of developing countries. Many factors contribute to this situation: shortages of foreign exchange, difficulty in obtaining information on suppliers and on prices of drugs, and the absence of a rational system of procurement based on a good selection and quantification of the drug needed. In many developing countries procurement of drugs has been based on past consumption rather than an estimate of actual needs, calculated according to morbidity and standard treatment schedules. This creates situations where past mistakes in drug quantifications are repeated year after year without corresponding to the health needs of the populations.

The situation may be made worse if procurement procedures do not use open tenders when purchasing drugs or if expensive brand name products rather than generics are bought.

Distribution of drugs to the health facilities is often a problem because of vast or inaccessible areas and limited availability of means of transportation. As will be seen in the section on quality assurance, this transportation has to be carried out in an appropriate way to avoid compromising the clinical effectiveness of the drugs. Countries also have problems conducting appropriate storage and inventory controls with the result that many drugs expire before they can be used or are used irrationally. The availability of appropriate drugs in health facilities in rural areas is therefore often problematic.

Lack of imported drugs is a problem particularly in countries where there is little local production of drugs. Some countries consider that drug manufacturing plants may contribute to reducing foreign exchange needs and further industrial production, thus creating jobs. In such situations, technology transfer is important. However, technology transfer is difficult and requires careful research at all stages to determine costs and benefits of such transfers.

The research projects reported below cover some of these important aspects of drugs availability in health facilities as well as various means of improving the situation.
Impact de la dévaluation du FCFA sur la Centrale d’Achat des Médicaments essentiels

Impact of the CFA devaluation on the Central Medical Stores in Benin

Title:

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Principal investigator: Hessou P

Institution: Centrale d’Achat des Médicaments essentiels, Bénin

Collaborator(s):

Institution(s):


Publications:

Unpublished documents:


Abstract:

The main impact of the CFA devaluation in January 1994 on the pharmaceutical sector was a doubling of drug prices, as most of these drugs were imported. Some well functioning central procurement agencies, like the one in Benin, were able to get support from the international community. With this support they could keep the cost of drugs to the patient at the same level for one year.

The research focused on the real impact of the devaluation on the Central Medical Stores (CMS) in Benin. It also sought to identify ways of re-establishing the real price of drugs without decreasing their affordability and therefore the utilization of the health services. The main conclusions were:

- The freeze on drug prices for the health services led to an increased number of customers, some health centres which used other sources of supply in the past, began to order drugs from the CMS. The number of orders increased by 64% between 1993 and 1994. It seems that some of these drugs have not been consumed in the health centres and have probably fed the illicit market.
- The prices paid by CMS for procuring drugs increased by 73% on average (which is a little less than expected); salaries and fixed costs (fax, telephone, water etc.) increased by 10 to 15%. A number of models have been developed to restore drug prices to their real retail levels over the next two years.

The research shows that even with a very careful procurement process prices have increased dramatically after the devaluation; if there are no subsidies, retail prices in health centres will have to follow the same pattern. In view of the low income of Benin’s population, it is important to monitor the utilization rate of the health services and to study who is using them and who is no longer doing so.
Title: Los medicamentos en el Ecuador: de la realidad a la utopía
English title: Medicines in Ecuador: from reality to Utopia

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**Principal investigator:**
- Samaniego E  
- Collaborator(s): Valle N, Echeverría J

**Institution:**
- Central University of Ecuador
- Central University of Ecuador

**Planned research period:** 01 Jan. 1988 - 31 Dec. 1989
**Effective research period:** 01 Jan. 1988 - 31 Dec. 1989

**Publications:**

**Unpublished documents:**

**Abstract:**
This was a comprehensive study of the whole pharmaceutical sector in the country. Information was collected through bibliographical research. Major findings were as follows: direct tendering was used instead of open tendering which would probably be cheaper; drug expenses were higher in the National Institute of Social Welfare than in the Ministry of Health because drug quantification was based on past drug consumption; inappropriate storage occurred at all levels; and 90% of the people who worked in the drug sector were qualified.
Title: El sistema de suministro en los programas sociales de medicamentos
English title: The drug supply systems of institutions concerned with social programmes

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Principal Investigator:  
Granda EU  
Collaborator(s):  
Landeta RP  
Marchan E  
Merino MC

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Publications:

Unpublished documents:

Abstract:
The objective of the study was to analyse the various drug supply systems in Ecuador's social sector (including the MOH, social security organizations, etc.). The survey was conducted in 55 health centres and four health institutions. Interviews were conducted with 414 consumers. The study concluded that there was a need to formulate a national drug policy and to define guidelines for the assessment of the drug supply system.
Title: Etude des coûts de différents systèmes d'approvisionnement pour le secteur public

English title: Study of the costs of the different supply systems for the public sector

Technical area: SUP  Research type: Strategic  Project ref.: 88052  OR No.: 25
Scope: Country-specific  Country: Guinea  Region: AFRO

Principal investigator: Institution:
Ménard S  IFRESCO, Paris
Collaborator(s): Institution(s):
Funder M  CNUCED/GATT, Geneva

Effective research period: 01 Jun. 1993 - 31 Aug. 1993

Publications:

Unpublished documents:

Abstract:
The aim of this research was to assess the real costs of the various drug supply and distribution systems implemented in Guinea by different projects supported by the WB, UNICEF, UNDP, etc. in order to facilitate the integration of all these systems into one. The report was discussed at a workshop held in February 1994 in Conakry. Results showed significant cost variations at all levels of the supply and distribution chains between the different projects. This resulted in different costs for the same course of treatment in the health care facilities. Through a well defined methodology, the research showed the need to control all direct and indirect costs at each level, in order to reduce the cost to consumers. It proposed the use of standard forms to measure all costs systematically. Also, it showed the importance of fixed costs which were independent of the volume of the drugs. It was concluded that it would be more effective to have a uniform drug procurement and distribution system for the public sector in Guinea and probably elsewhere.
Title: Survey on morbidity and use of drugs.

English title:

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**Principal investigator:**

Swe M  
Myanmar Essential Drugs Project, Department of Health

**Collaborator(s):**

Winn S  
Health Directorate, Rakhine State

Dawson D  
Myanmar Essential Drugs Project, Department of Health

Myint H  
Myanmar Essential Drugs Project, Department of Health

**Planned research period:** 01 Jan. 1989  -  31 Aug. 1994

**Effective research period:** 01 Jan. 1989  -  31 Aug. 1994

**Publications:**

Unpublished documents:


**Abstract:**

The study aimed to collect data retrospectively for the three years from 1986 to 1988 and prospectively from 1989 onwards. It started out by using the WHO forms for classification of diseases which were sent to health facilities in order to record diseases. The forms were not pretested in the field. After having received reports of pregnancy and abortions in the under five age group, it was discovered that elderly midwives were unable to read the small text of the forms and therefore recorded in the wrong columns. In addition, many of the 380 listed diseases were unknown to the health personnel. A new revised and simplified form was prepared and various types of pretesting were done. The project collected morbidity data for one year, from mid 1989 to mid 1990, which were used to develop the morbidity form for the prospective part of the research.

The results reported below were collected prospectively from 1990 by the Myanmar Essential Drugs Programme, in two townships only, using the new forms. Within these townships, data were collected from hospitals, health centres and health subcentres. The data were collected separately from each health centre and compiled to obtain the final data.

It was found that the ten most common health problems were fever, aches and pains, worms, cough and common cold, anaemia, scabies, abdominal pain, ARI, diarrhoea and either septic wounds or malaria depending on the township.

The most commonly used drugs in the townships were Ferrous Sulphate, Paracetamol, Phenoxymethyl Penicillin, Aluminum Hydroxide, Chlorpheniramine, Ampicillin, Metronidazole, Chloroquine, Sulphamethoxazole-trimethoprim, Salsbutamol, Mebendazole and Oral Rehydration Salt Packets. Results were used in combination with standard treatment schedules to calculate drug requirements. The report also states that there has been increased attendance at the health centres in one township due to the introduction of the Essential Drugs Programme. However, no figures are given to support this statement.
Title: **Effect of centralized procurement of medicines on affordability in South Africa**

English title:

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**Principal Investigator:**
Pharasi B

**Collaborator(s):**
Price M

**Institution:**
Centre for Health Policy, University of Witwatersrand, Johannesburg

**Institution(s):**
Centre for Health Policy, University of Witwatersrand, Johannesburg

**Planned research period:** 01 Mar. 1994 - 01 May. 1995

**Effective research period:** 01 Mar. 1994 -

**Publications:**

**Unpublished documents:**
Progress report.

**Abstract:**
The study aimed to determine whether the centralized procurement of drugs undertaken by the Coordinating Committee for the Acquisition of Medicines (COMED) for the public sector has resulted in cost containment and affordability of appropriate drugs in South Africa. A rapid evaluation method was used to assess the performance of the centralized procurement system in the public sector, open ended interviews and questionnaires were used with key people in the public and private drug sectors, and data collection on prices, expenditures and use was carried out. Preliminary findings were presented in a workshop involving all partners. One conclusion of the study was that in spite of certain inefficiencies in the COMED system, it does provide the basis for improved cost containment in the supply of essential drugs. It has proven advantages in decreasing prices and increasing the bargaining power of the public sector. Alternatives to centralized procurement were also analysed in the report. The progress report contains a number of recommendations related to the improvement of the tender system, the establishment of an essential drugs list and of therapeutic protocols for the public sector, and the setting up of a monitoring system on drug consumption and expenditures. It calls for an increased role by the local authorities in the procurement process and for finding ways to use private services in a cost-effective manner, without departing from the national goals of the drug supply system and after careful investigation of the advantages to be gained from such contracting. The final report is expected in 1996.
Title: Baseline survey of the drug situation in the PHC system of Yemen Arab Republic

English title:

Technical area: SUP  Research type: Strategic  Project ref.: 88065  OR No.: 02
Scope: Country-specific  Country: Yemen  Region: EMRO

Principal investigator: Institution:
Chaudry MA  WHO consultant
Collaborator(s): Institution(s):
Majid  MOH, Aden
Shaibani AR  WHO consultant

Planned research period: 01 Mar. 1988 - 10 Apr. 1988
Effective research period: 01 Mar. 1988 - 10 Apr. 1988

Publications:

Unpublished documents:

Abstract:
The purpose of this survey was to provide baseline data for the follow-up evaluation of the impact of the Yemen Essential Drugs Programme on drug availability and rational use. Ten health centres and 20 primary health care units were randomly selected. A checklist of drugs was used to measure drug availability, while rational use was measured by analysing 100 prescriptions per health centre. The study revealed that no health facility had all the targeted drug items. There were between 12 and 35 essential drugs available in the investigated health centres instead of the ideal 49 essential drugs. In primary health care units there were between four and 20 essential drugs available instead of the desired 26. In terms of rational use, the average number of drugs per prescription was three. Antibiotics were the most frequently prescribed drugs (though record keeping in health centres was poor).
Title: Low cost drug packaging project

Technical area: SUP  Research type: Strategic  Project ref.: 92006  OR No.: 43
Scope: Multi-centre  Country: Global  Region: GLOBAL

Principal investigator: Institution:
Long M
Collaborator(s): Institution(s):


Publications:

Unpublished documents:

Abstract:
The study was conducted in Bangladesh, Bhutan and Mexico. The objective was to investigate a low cost and feasible way to produce drug packages. In phase one, two machines were developed in Bangladesh which could use waste materials to produce low cost packaging for drugs. One machine recycled plastic and the other used old paper and card. Both machines worked well in a Bangladeshi health centre context. It was concluded that the machines were technically sound, suitable for use in Bangladesh and that they had a positive impact on patient compliance and drug consumption.

The second phase of the project tested how the two machines worked in different developing country contexts. The paper machine was tested in Bhutan but was found to be more expensive than the present system of importing UNIPAC polythene envelopes. The reason for this was the non-availability of staff to operate the machine. A long-term trial of the machine was therefore cancelled. The plastic-making machine was tested in the Western highlands of Mexico in a community-based disability-rehabilitation project. It turned out that the machine was unable to use the main waste product of the community project (polypropylene originating from the prosthetics workshop). There were also technical problems in the operation of the machine. In addition, the community project went through an internal crisis linked to the changing target group for the centre's operations (from children to physically and socially damaged youths) and to the socio-political context of being located in a drug growing area with high rates of violence and social disturbances. Trials were therefore also cancelled in this case.

It is concluded that technology transfer is a very difficult and complex process which involves not only the appropriateness of inputs and outputs but also opportunity costs, value systems, the socio-political context etc. Another complicating factor, when considering such a project's viability, is the high cost of shipping and insurance when machines are transferred to another country.
Title: Drug supply by ration kits: report of an evaluation

| Technical area: | SUP | Research type: | Strategic | Project ref.: | 94005 | OR No.: 49 |
| Scope: | Multi-centre | Country: | Global | Region: | GLOBAL |

| Principal investigator: | Haak H
Collaborator(s): | Hogerzeil HV |
| Institution: | WHO consultant | WHO/DAP |


Publications:


Unpublished documents:

Abstract:
This was an evaluation of the kit supply system in ten countries in Africa and Asia. Data were collected by review of published literature and available reports; analysis of 26 questionnaires received from countries with an operational kit system; and interviews with personnel from public and NGO country programmes, suppliers and WHO. Nomenclature for types of health facilities was standardized, for comparison purposes contents of all kits were recalculated into drug quantities for 1000 treatment episodes and a cost indicator was designed (based on a theoretical price).

The research concluded that a limited number of drugs are normally used in drug kits. Twenty one drugs were present in at least two thirds of all kits. These priority drugs could be used as a check list when planning a new ration kit programme. Median drug quantities from kits in other countries can also be used as a starting point, to be adjusted by newly generated morbidity data and information on drug shortages and surpluses. In the beginning, drug quantities should be reviewed frequently. Six drugs normally account for 60% of the cost of the kit and the prices of these drugs need to be carefully monitored. They are ORS, chloroquine and four antibiotics.

The research points out that drug surpluses seem to be a limited problem and that it is three main drugs which account for these surpluses (ORS, iron tablets and benzylbenzoate). These drugs are relatively cheap, commonly used and have a long shelf-life. The main problems in the kit supply system seem to be originating in long delivery times, interrupted supplies, dispatch of the wrong kits and, in particular, the long periods needed to make changes in the composition of the kit. It is recommended that suppliers who can respond quickly to necessary changes should be selected and that the kits should be packed within the countries if possible.

A follow-up study is now being implemented in the same countries.
Quality assurance

All drugs available in countries should be of good quality regardless of whether they are found in the private or in the public sector. However, the quality of drugs in many developing countries remains a challenging problem. Ineffective border controls, weak drug registration procedures, nonexistent inspection and quality control laboratories make it difficult for countries to ensure that drugs on the market are of good quality. The problem is aggravated by the lack of skilled human resources to address the situation. Even when a problem is detected, enforcement of the rules and regulations may not take place. Some drugs are therefore substandard or counterfeit when they enter a developing country.

In addition, stability problems may reduce the effectiveness of good quality drugs because of exposure to high humidity, wide range of temperatures or strong light. Most imported drugs have travelled very long distances and conditions during transportation on the sea or over land are often detrimental to drugs.

Some tools such as the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce and the Good Manufacturing Practices, have been developed to help countries ensure good initial quality of drugs.

The studies reported below have tried to estimate the extent of the described problems and the extent to which the tools are adequate and used by countries.
Title: Inland stability study in Sudan

English title:

Technical area: **QUA**  Research type: **Strategic**  Project ref.: **88060**  OR No.: **04**
Scope: **Country-specific**  Country: **Sudan**  Region: **EMRO**

**Principal investigator:**
Hogerzeil HV
Collaborator(s):
De Goede M
Abu Reid IO

**Institution:**
WHO/DAP
International Dispensary Association, Amsterdam
National Quality Control Laboratory, Khartoum

Planned research period: **01 May. 1989 - 30 Aug. 1991**
Effective research period: **01 May. 1989 - 30 Aug. 1991**

**Publications:**


**Unpublished documents:**

**Abstract:**
The aim of the study was to determine the effect of climatic conditions on drugs shipped to Sudan. Of 12 drugs analysed before and after shipment, only three drugs (ergometrine, adrenaline and retinol) showed significant loss of stability. This instability is a serious medical problem for life-saving drugs such as ergometrine and adrenaline, which require better storage conditions as specified in the manufacturers' storage instructions. Antibiotics showed no sign of instability despite their exposure to extreme climatic conditions.
Title: Drug resistance survey in Sudan

Unpublished documents:

Abstract:
The objective of this study was to identify drug resistance in patients suffering from urinary tract infections and gastrointestinal infections. The methodology consisted of bacteriological culture and sensitivity testing. One thousand five hundred samples of urine and 1,500 samples of stools from rural and urban communities in Khartoum Province were tested over a period of one year.
Title: Inland stability study in Zimbabwe

English title:

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**Principal investigator:** Nazerali H
**Collaborator(s):** Muchemwa T

**Institution:**
- Essential Drugs Programme, Harare
- MOH, Regional Drug Control Laboratory, Harare

**Planned research period:** 01 Apr. 1991 - 31 Dec. 1993
**Effective research period:** 01 Apr. 1991 - 31 Dec. 1994

**Publications:**

**Unpublished documents:**

**Abstract:**
The goal of this study was to investigate the effect of tropical conditions on drugs distributed in Zimbabwe. Thirteen drug forms were selected on the basis of a suspicion of instability, high turnover and medical relevance. It was a longitudinal study during which climatic conditions, drug quality, transit time and supply time were recorded from a sample of 40 health facilities. The progress report showed that there were stability problems during transportation for ergometrine injections, ampicillin injections, retinol tablets and epinephrine injections. Nine out of 13 drugs maintained satisfactory quality up to the end point of use in the public sector. But the consistent low potency of ergometrine injections and retinol tablets at facility level have clinical consequences. Likewise some samples of ampicillin injections and procaine penicillin injections had low values which may compromise efficacy. Similar studies have been done in Sudan and elsewhere.

As a result of the study the Zimbabwe Essential Drugs Programme is now ensuring that ergometrine ampoules are kept in refrigerators.
Title: Assessment of the operation of the WHO Certification Scheme

Technical area: QUA  Research type: Strategic  Project ref.: 92013  OR No.: 39
Scope: Multi-centre  Country: Global  Region: GLOBAL

Principal investigator: Institution:
WHO/DAP

Collaborator(s):
Institution(s):
Various institutions

Planned research period: 19 Apr. 1993 - 30 Nov. 1993
Effective research period: 19 Apr. 1993 - 01 Jan. 1995

Publications:

Unpublished documents:

Abstract:
This research was conducted in 15 countries: Benin, Cameroon, Central African Republic, Ecuador, Fiji, Jamaica, Kenya, Malawi, Malaysia, Myanmar, Papua New Guinea, Sri Lanka, Tanzania, Tunisia and Yemen. The purpose was to assess the extent to which the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce is being applied and to promote its use for improving the quality assurance of pharmaceutical products moving in international trade, especially those imported by developing countries. The data collection and analysis have been completed. The study showed that only two out of the 15 importing countries actually used the WHO Certification Scheme as recommended. The rest used various other types of certificates or requested the WHO Certificate during drug procurement for the public sector instead of during drug registration. Most exporting countries had not standardized their certificates and did not issue the WHO certificate. In one of the two exporting countries investigated pharmaceutical products for export were not subject to the same controls as locally consumed pharmaceuticals. In the second country, only 152 out of 8,200 manufacturers met GMP requirements.

The reasons for the low use of the scheme were: lack of information on the part of importing countries on the mode of operation and advantages of the WHO Scheme as compared to other types of certification; and a lack of commitment by both importing and exporting countries due to the voluntary nature of the WHO Scheme.
**Title:** WHO/UNICEF study on the stability of drugs during international transport

**English title:**

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<td>Stjernstrom NE</td>
<td>Medical Products Agency, Sweden</td>
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**Planned research period:** 01 Jan. 1988 - 31 Jan. 1991

**Effective research period:** 01 Jan. 1988 - 31 Jan. 1991

**Publications:**


**Unpublished documents:**

**Abstract:**
The objective of the study was to investigate the effect of tropical conditions (humidity, temperature) on drugs shipped to Bangkok, Kampala, Lagos and Mombassa. Twelve drugs were selected on the basis of a suspicion of instability, their high turnover and medical relevance. Shipments of these drugs were equipped with devices which automatically recorded temperature ranges and humidity during shipment. Samples of drugs were taken upon arrival at their destination and sent to a Swedish laboratory for analysis and comparison with control samples. The temperature range was from -3.5°C to 42.4°C. Humidity range was from 20 to 88%. All these temperature and humidity ranges were higher than those recommended for drug storage. Three drugs (ergometrine, methylergometrine and retinol) showed significant loss of stability. This is a serious medical problem as these are life-saving drugs. The effectiveness of antibiotics was not altered by the range in temperatures or the high humidity.

It is recommended that more studies of the stability of essential drugs in tropical climates should be carried out. Specifically, more recording should be made of the climatic patterns on other sea routes. Secondly, more longitudinal, stability studies within tropical countries are needed. Thirdly, more brands of (methyl)ergometrine should be examined to define specific storage instructions. Fourthly, further studies should compare stability differences in other brand name drug products.
Title: Potency of ergometrine in tropical countries

English title:

Technical area: QUA  Research type: Strategic  Project ref.: 88060  OR No.: 41
Scope: Multi-centre  Country: Global  Region: GLOBAL

Principal investigator: Högerzell HV
Institution: WHO/DAP

Collaborator(s): Walker GJ
Institution(s): WHO/MCH

Hillgren U  National Board Health Welfare, Stockholm


Publications:


Unpublished documents:

Abstract:
Postpartum haemorrhage is a major cause of maternal mortality in the world, especially in developing countries. The purpose of this study was to analyse the quality of ergometrine stored under tropical conditions in Bangladesh, Zimbabwe and Yemen. Twenty-four drug samples were collected from 20 health facilities in the three countries. It was found that five samples had expired up to 12 months previously. Nine had normal potency, eight had 80-89% of the required potency and seven had potency 20% below that required. A similar study was conducted in The Gambia, Malawi, Sudan and Zimbabwe (WHO/DAP/93.6). It confirmed that there is a stability problem with ergometrine at the user level. Available results suggest that ampoules of oxytocic drugs may be more stable in tropical conditions, but more data are needed to draw definitive conclusions. A connected study looked at the stability of oral oxytocics under simulated tropical conditions (WHO/DAP/94.13). It was concluded that none of the oral oxytocics included in this study were stable under all simulated conditions. It is therefore unlikely that oral oxytocics can be effective in the prevention of postpartum hemorrhage in tropical climates.
Title: La qualité des médicaments sur le marché pharmaceutique africain
English title: The quality of drugs in the African drug market

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<td>Aschehoug E</td>
<td>Réseau Médicaments et Développement (ReMeD), Paris</td>
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Publications:
Unpublished documents:

Abstract:
This study was conducted in French-speaking African countries to determine the extent to which drugs found on the African market were of appropriate quality. The study had two phases. In the first phase, a questionnaire was sent to 37 countries to investigate mechanisms by which they ensured drug quality control, such as drug legislation, registration, inspection, existence of a national drug control laboratory and types of analyses performed. The report of the first phase revealed that in the 25 countries which completed the questionnaire (68%), the results were as follows: an inspection system existed in ten countries, a national laboratory in eight countries, local production in 20 countries, and registration and GMP in 14 countries. Incidents due to counterfeit drugs were reported in eight of these countries but without supporting documentation. It was therefore difficult to reach any conclusions about the counterfeit situation in these or the remaining 17 countries. The most important conclusions resulting from this study were methodological. A mailed questionnaire survey was not appropriate for this type of investigation. Structured questions resulted in answers which were too categorized/broad; and open ended questions resulted in imprecise answers or no answers at all.

The second phase studied drug samples in Cameroon, Chad and Madagascar. In Cameroon, 48 drugs out of 268 analysed were substandard (18%). In Madagascar, 20 drugs out of 107 analysed were substandard (19%) and in Chad, 9 drugs out of 54 analysed were substandard (17%).
Rational use

Rational use of drugs is a problem globally, nationally and locally. Too many irrational drugs find their way to the markets of developing countries where drug regulatory authorities are unable to control them. Necessary drugs are often used irrationally for self-limited diseases or in ways which promote drug resistant diseases. And overall, far too many drugs are consumed for diseases where prevention would have been better solutions.

Prescribers are often overwhelmed by the many different brand names available. Their basic training in rational prescribing and pharmacology is often inadequate. In developing countries, they frequently end up relying on representatives of pharmaceutical companies for information on their drugs. In addition, pressures of patient load (public sector) or the perceived demands of consumers (private sector) may result in too many drugs prescribed, a high administration rate of injections, and a tendency to “overkill” with antibiotics or other potent drugs when diagnostic instruments (such as laboratories) are lacking. Prescription patterns are also affected by the availability of drugs in the treatment outlets, sometimes the right drug is not available and another, less rational, is substituted.

The biomedical disease approach and the drugs it has produced are often alien to existing cultural notions about sickness and health in developing countries. Biomedical disease categories are often not understood or used by people, and pharmaceuticals are reinterpreted in accordance with local cultural notions about the criteria for selecting medicines and judging their efficacy. It is therefore not surprising that pharmaceuticals are used by people in developing countries in ways which are very different from the bio-medical intentions. In addition, self-medication is widespread and often there are no restrictions on the availability of even dangerous drugs. This situation has caused much concern because of the risks connected with adverse reactions, ineffective treatment when time is crucial, over-dosing, the development of resistant strains of bacteria and the general waste of poor people’s scarce resources.

Some of the research studies summarized below have sought to gather more information about prescribing patterns, and interventions to improve them. Other projects have studied lay people’s use of drugs in the context of their perceptions of appropriate treatment strategies, often confirming the central role played by pharmaceuticals in these strategies.
Unpublished documents:

Abstract:
The research evaluated the use of the Ministry of Health Therapeutic Guide for physicians. Results showed that 68% of the doctors, who responded, knew of the guide, almost 75% had it in their possession but only 14% used it regularly. However, more than 90% of the doctors did use a therapeutic guide of some kind, the most popular being "Vidal". Regarding its contents, it was felt that the MOH guide was consistent with what had been taught at university but not with specialized medical practice, nor with the guidelines of national programmes. Only a third of the physicians felt that the guide corresponded to the medicines available on the market. The doctors suggested that the guide should give priority to the ailments most frequently presented in clinical practice and that it should contain brief clinical summaries. Other findings from the evaluation were that the most frequent symptoms presented were fainting and tiredness. Most medical emergencies were caused by cardiac conditions. The most frequently prescribed drugs were aspirin, ampicillin and paracetamol. If classified in therapeutic groups the most frequently prescribed drugs were anti-inflammatory drugs, painkillers, anti-infectious drugs and drugs for the digestive system.
Title: The effect of treatment guidelines, with or without audit, on prescribing patterns

Abstract:
The aim of this study is to measure the effect of introducing treatment guidelines on prescribing for diarrhoea and acute respiratory infections (ARI). Furthermore, it aims to determine the importance of auditing prescribing behaviour to achieve more rational prescribing. The study will introduce clinical guidelines on prescribing in two groups of doctors working in Thana Health Complexes (THCs). One group will also be subject to a prescription audit. By comparing these two experimental groups with each other as well as with a control group, the effectiveness of both types of intervention will be determined. A baseline survey was conducted using retrospective prescribing data in 60 THCs. It revealed very irrational use of antibiotics in ARI in 23 THCs, antibiotics were used in more than 75% of the cases. However, only six out of 60 THCs used antibiotics (including metronidazole) in more than 50% of the encounters of diarrhoea. Interventions were designed in the field of ARI. Results are not available.
Title: Enquête CAP sur les médicaments modernes
English title: KAP study on modern medicines

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<tr>
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<td>Direction nationale de la Protection sanitaire, Min. Santé, Cotonou</td>
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Publications:

Unclassified documents:

Abstract:
The objectives of this study are to determine the public’s knowledge, attitudes and practices (KAP) concerning modern drugs and to develop the information, education and communication strategies required to promote rational drug use by the public in Benin. The first KAP phase of the study has now been completed. The study used structured interviews, observation and focus group discussions. Investigations took place in a rural and an urban area of South-East Benin.

Results showed that the major diseases were malaria ("hot body") and intestinal parasites. Only 43% of the respondents mentioned bacteria as the cause of diseases. Mostly they were believed to have been caused by the sun (especially malaria), too much work and insufficient nutrition. The most frequently used drugs were Nivaquin, Aspirin and Vermox (mebendazole). A large group of people had also used Quinimax injectables (quinine). In the urban zone most people got their drugs from the pharmacy, the market or the health facility (in order of importance). In the rural zone, people obtained them from drugs outlets and also to some extent from the health facility, the market and drug peddlars. People were attracted to the informal sector by the generally lower costs of drugs and the possibilities of buying small quantities of drugs rather than a full course of treatment. Overall, self-medication was practised by 92% of the urban people and 73% of the rural people. These results have to be viewed in the context of the lack of health facilities in some areas and large distances to health centres. In addition, some people may not have been aware that drugs could be purchased at health centres.

The researchers are now in the process of developing information, education and communication strategies based on the results of the KAP study.
Title: Impact of treatment norms' development on prescribing at PHC-level

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Effective research period: 01 Sep. 1994 -

Publications:

Unpublished documents:
Proposal.

Abstract:
The objective of this study is to evaluate the impact of group development of treatment norms on drug use in rural and urban health centres in the Greater Accra Region. First, a baseline study of prescribing patterns will be conducted. Next, rural and urban health centres will be randomly divided into intervention and control groups. The intervention will consist of a series of workshops for prescribers to develop treatment norms for six priority conditions. The treatment norms developed will then be circulated to the intervention facilities. Surveys will be conducted one and six months later to measure differences in prescribing patterns between the intervention and control groups.
Title: Effect of rational drug use workshops on prescribing and pharmacy practices

Unpublished documents:

Abstract:
The study evaluated the impact of conducting rational drug use workshops for physicians in mission hospitals. The workshops had some measurable positive effects although not all indicators improved. Some of the positive effects were that the number of injections per prescription decreased, more hospitals adopted an antibiotics policy, and more hospitals constituted a pharmacy therapeutics committee. There was also an increase in the percentage of prescriptions costing less than Rupees 20. However, the number of prescriptions containing more than five drugs actually increased and the study was unable to explain this pattern. The workshops succeeded in making doctors more critical of the time they spend with drug representatives and the acceptability of free drug samples. It is recommended that the workshops be conducted in other areas of India.
Title: Interactional group discussion: intervention for rational injection use

English title:

Technical area: RUS Research type: Intervention Project ref.: 92010 OR No.: 51
Scope: Country-specific Country: Indonesia Region: SEARO

Principal investigator:
Hadiyono JEP
Collaborator(s):
Suryawati S
Damu SS
Sunartono

Institution:
Gadjah Mada University, Yogyakarta
Institution(s):
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Committee of Pharmacy, Yogyakarta
Committee of Pharmacy, Yogyakarta


Publications:
Article accepted by Social Science and Medicine (in press).

Unpublished documents:

Abstract:
This study investigated the impact of a specific form of behavioral intervention, the interactional group discussion, on the prescription of injections in health centres. The study selected 24 health centres randomly and divided them into two groups of 12 centres each, one for intervention and one for control. Each interactional group discussion consisted of six prescribers and six patients selected from women's groups in the health centre areas. Care was taken that prescribers were not in a group with their own patients. The 90 to 120 minute discussion took place over a meal in a restaurant and was led by a behavioural scientist and a clinical pharmacologist. The discussion often revealed that prescribers thought their patients were demanding injections while the patients were thinking that injections were not always desirable. The bio-medical risks of unnecessary injections were also discussed.

The impact of the intervention was measured by a review of prescriptions from three months preceding the intervention and three months after. Results showed a significant decrease in the prescription of injections in the intervention group, from 69.7% to 42.9%, as compared to a decrease of only 76.3% to 66.5% in the control group. There was also a decrease in overall drug use, indicating that injections were not being substituted with other drugs. It is concluded that the interactional group discussion is effective in reducing a specific behaviour which has obvious risks. It is important that such groups take place in a relaxed atmosphere, such as a restaurant setting.
Title: Introduction of clinical guidelines

Technical area: RUS  Research type: Intervention  Project ref.: 88009  OR No.: 65
Scope: Country-specific  Country: Kenya  Region: AFRO

Principal investigator: Juma FD
Collaborator(s): KI Mathi NA
Sharif SK

Institution:
College of Health Sciences, University of Nairobi
Provincial Medical Office, Nairobi
Coast General Hospital, Mombasa

Effective research period:

Publications:

Unpublished documents:
Proposal.

Abstract:
The objectives of the research is to measure the impact of two different strategies to launch the new clinical guidelines for doctors in Kenya.
Abstract:
The study compared the prescribing habits of health workers in two districts in Eastern Nepal. One of these districts was benefiting from a supplementary drug supply scheme. It was also subject to a partial cost recovery scheme in which a flat fee was charged for prescriptions. The other district was used as a control in the measurement of the impact of the drug supply and cost recovery schemes. It was found that the intervention district showed gross overprescribing in terms of all indicators (antibiotics, injections, number of drug items etc.). In comparison, the control district showed less irrational prescribing. It is unknown whether this effect was due to the easy availability of drugs in the intervention district or to a perceived need to justify the prescription charge. The study was unable to determine which of the two variables was responsible for the overprescribing. The only area that improved in the intervention district was that of prescribing adequate dosages of drugs, thus presumably reducing the risk of developing bacteriological resistance. The study concluded that structural aspects of cost sharing schemes may have more impact on prescribing patterns than educational interventions. Another cost recovery scheme in a different area of Nepal was based on an item fee instead of a flat fee and that seemed to promote more rational prescribing. With an item fee there was less tendency to overprescribe because the patient would have to pay more. Further research into these issues is recommended.
Title: Drug use indicators as intervention tools in promoting rational use of drugs

Technical area: RUS  Research type: Intervention  Project ref.: 92008  OR No.: 17
Scope: Country-specific  Country: Nigeria  Region: AFRO

Principal investigator: Isah AO  Institution:
Collaborator(s):  Institution(s):

Effective research period: 01 Jan. 1995 -

Publications:

Unpublished documents:
Proposal.

Abstract:
The study aims to determine the effects of using drug use indicators as intervention tools. Thirty randomly selected health care facilities with adequate health records will be divided into three sets which have similar drug use profiles. Each of these sets of health facilities will be assigned to one of three groups. Group One will receive direct mailing of survey findings on prescribing patterns, Group Two will also receive direct mailing but with additional face to face discussions on prescribing patterns. Group Three will constitute the control group in which no intervention will take place. The effects will be evaluated one and six months after the interventions.
Study on prescribing to outpatients at hospitals in Zimbabwe

Principal investigators: Trap B
Collaborator(s): 

Institution: Zimbabwe Essential Drugs Action Programme, Harare

Effective research period: 01 Mar. 1994 -

Abstract:
The study is investigating prescribing patterns in Zimbabwe's hospitals. The objectives are the following: to analyse the extent to which drugs are prescribed according to the standard treatment guidelines; to identify priority problems in drug prescribing for intervention strategies; and to identify factors contributing to irrational drug use. The sample includes two central hospitals and two provincial hospitals. Five drugs were selected for study, based on their medical and economic importance. Indications, dose and duration of treatment are the major variables to be studied to analyse whether the standard treatment guidelines are followed.
Title: Impact of a short interactive training course in pharmacotherapy

English title:

Technical area: RUS  Research type: Intervention  Project ref.: 88038  OR No.: 57
Scope: Multi-centre  Country: Global  Region: GLOBAL

Principal investigator: De Vries T
Collaborator(s): Henning RH  Hogerzeil HV  et al.

Institution: Department of Clinical Pharmacology, Univ. of Groningen, Netherlands
Institution(s): WHO/DAP


Publications:

Unpublished documents:

Abstract:
The impact of a short interactive training course in pharmacotherapy, using a new WHO student manual on the principles of rational prescribing, was measured in a controlled study of 219 undergraduate medical students in Groningen, Kathmandu, Lagos, Newcastle (Aus), New Delhi, San Francisco and Yogyakarta. The course presented a normative model for pharmacotherapeutic reasoning, in which students were taught to generate a "standard" pharmacotherapeutic approach to common disorders, resulting in a set of first-choice drugs called P(ersonal)-drugs. The students were then shown how to apply this set of P-drugs to specific patient problems using a six step model: (1) define the patient problem; (2) specify the therapeutic objective; (3) verify the suitability of your P-drug; (4) write a prescription; (5) inform and instruct the patient; and (6) monitor and/or stop the treatment.

The impact of the training course was measured by three tests, each containing open and structured questions on the drug treatment of pain. Tests were done before the training, immediately after, and after six months. Students from the study group performed significantly better than controls in all patient problems presented. The students not only remembered how to solve old patient problems, but they could also apply this knowledge to new patient problems. This effect was maintained six months after the training session.
Title: Development of a database to monitor and improve drug use

English title:

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Principal investigator: Ofori-Adjei D

Institution: University of Ghana Medical School

Collaborator(s):

Institution(s):


Publications:

Unpublished documents:

Ofori-Adjei D. Development of an information base to monitor and improve drug use. 1994.

Abstract:

In the context of a difficult economic situation, Ghana has introduced measures which include patients paying the full cost of their drug treatment. A revolving drug scheme became operational in 1992 and the Bamako Initiative has been implemented on a pilot basis in five districts since 1989. This study aimed at strengthening the information base for monitoring and improving drug use. Two databases were developed as a result of the study. Data collection took place in five Bamako Initiative districts and five other districts in the same regions but without the Bamako Initiative scheme. Data were collected through an outpatient form which was filled in in duplicate by staff at randomly selected health centres.

A drug-disease database was created. It consisted of all drugs on the national essential drugs list linked to diseases listed on the data collection forms. The database also enabled calculations of the percentage of patients under five years of age, the total dosage per treatment episode, etc.

The second database was called the outpatient database. It allowed the estimation of drug needs by both consumption and morbidity criteria. The drug indicators used in this database revealed overuse of injections, antibiotics and a high average number of drugs prescribed. Other inappropriate use included the use of diazepam in the treatment of malaria.

The above results will form the basis for planning interventions to improve drug use, developing appropriate sampling methods for drug need estimations and for monitoring therapeutic practices in Ghana.
Title: Estimation of drug requirements and consumption

English title:

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Principal Investigator: Kintanar QL
Collaborator(s): Carandang ED

Institution:
Bureau of Food and Drug Administration, Department of Health, Manila

Planned research period: 01 Jan. 1990 - 01 Jan. 1994

Publications:

Unpublished documents:

Abstract:
The objective of the research was to estimate drug requirements in public hospitals and rural health units, based on standard treatment schedules and number of cases. Data were collected on all inpatients and outpatients in a sample of health facilities in 1987, 1988 and 1989. However, the objective was modified when it became clear that the results could not be used for estimating drug requirements. The reasons were that there was too much irrational prescribing and that the sample was not representative. The collected data were therefore used for studying the drug utilization profile at Government hospitals and rural health units prior to the full implementation of the Generics Law and of the comprehensive implementation of the Philippine National Drug Policy. The results show that polypharmacy was not a problem in the Government facilities (average number of drugs prescribed per patient was 1.54 for hospitals and 1.51 for RHU’s); however, vitamins and tonics were commonly used for outpatients. The injection rate was much lower in the Philippines than in many countries (less than 1% of the drugs prescribed were in injection form). Thirty percent of the drugs prescribed in Government hospitals were not on the essential drugs list. These results will be used as baseline data for further monitoring of the policy. The remaining funds will be used for developing a manual for estimating drug requirements for health services.
How to investigate drug use in communities

Technical area: RUS  Research type: Methodological  Project ref.: 88018  OR No.: 37
Scope: Multi-centre  Country: Global  Region: GLOBAL

Principal investigator: Hardon A
Institution: Medical Anthropology Unit, University of Amsterdam

Collaborator(s): Brudon-Jakobowicz P
Institution(s): WHO/DAP
Reeler A
Institution(s): Mahidol University, Bangkok

Planned research period: 01 Jan. 1990 - 01 Jan. 1991
Effective research period: 01 Jan. 1990 - 01 Jan. 1991

Publications:

Unpublished documents:

Abstract:
This guide is intended to provide researchers, administrators of health programmes and health workers with simple research methods to identify problems in the provision and use of drugs at the community level of health care. It also aims to encourage them to work together in developing action-oriented research projects. The guide is now being updated. A questionnaire has been sent to a limited number of people who have used the guide in the past or who are knowledgeable about relevant research methodologies. Experiences from the field application of the guide in Pakistan, the Philippines, Mali and Uganda will also be taken into consideration. The new version will be field tested and published in 1997.
Title: How to investigate drug use in health facilities

English title:

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Principal Investigator:  
Institution: International Network on Rational Use of Drugs (INRUD)

Collaborator(s):  
Institution(s):  
WHO/DAP


Publications:


Unpublished documents:

Abstract:
A selected number of indicators on drug use in health facilities were field tested in Bangladesh, Nepal, Nigeria and Tanzania. The indicators consisted of three types. One group related to prescribing and included measurements of average number of drugs per encounter, percentage of drugs prescribed by generic names, percentage of encounters with antibiotics and/or injections prescribed and percentage of drugs prescribed from the essential drugs list. The second group of indicators related to patient care. It measured average consultation and dispensing time, percentage of drugs actually dispensed, percentage of drug adequately labelled and the patient’s knowledge of correct dosage. The third group related to the health facility itself and measured the availability of an essential drugs list and of key drugs.

The manual "How to investigate drug use in health facilities" is a result of the above study. It gives detailed instructions on how to use the indicators and how to analyse the collected data.

More surveys have been carried out in countries since the initial studies to test the indicators. The article listed above presents some of the comparative results, for example that the average number of drugs prescribed ranged from 1.3 to 2.2. The use of injectables varied much more, with country-specific percentages from 0.2% to 28%. High levels of generic prescribing were found in some countries, particularly in Tanzania and Zimbabwe.
### Medicamentos y capacitación como racionalizar su manejo

**English title:** Drugs and training: how to rationalize them

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**Principal investigator:** Velasco M  
**Collaborator(s):** Morales de Carrillo G  
**Institution:** Central University of Ecuador  
**Institution(s):** Central University of Ecuador

**Planned research period:** 01 Jan. 1988 - 31 Dec. 1989  
**Effective research period:** 01 Jan. 1988 - 31 Dec. 1989

**Publications:**  

**Unpublished documents:**

**Abstract:**
The objective of this study was to analyse the pharmaceutical sector and review training in rational drug use as a preparation for establishing the national essential drugs programme. Sources of information were: bibliographical research, national workshops, interviews in medical schools and interviews with physicians and technicians. The study concluded that the main problems identified were the uneven distribution of health resources, the lack of training for health professionals in rational drug use and the low number of trained pharmacists in the country (only 8% of the total number of health workers).
Title: People, use of antibacterials and bacterial resistance: an ecological study

English title:

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<td>Kanungo R</td>
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<td>Shashindran CH</td>
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<td>Larsson C</td>
<td>Department of Infectious Diseases, University Hospital, Lund</td>
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<td>Tomson G</td>
<td>Department of International Health Care Research (IHCAR), Stockholm</td>
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Effective research period: -

Publications:

Unpublished documents:
Proposal

Abstract:
The purpose of this study is to assess the proportion of rural/urban households in possession of antibacterials, to determine the sources of these antibacterials and to identify the most common antibacterials used or kept in the households. The study also seeks to measure how much households spend on antibacterials. So far, a survey has been conducted among patients with acute respiratory tract infections attending primary health centres and the outpatient department of Pondicherry General Hospital. In the 889 patients tested, preliminary data revealed relative penicillin resistance in 11% of the isolates. Other antibiotics, to which pneumococci were resistant, were cotrimoxazole (49%) and chloramphenicol (2%). They were sensitive to cefotaxime (100%) and cefalexin (100%).
Title: Baseline survey on drug use patterns in Delhi

English title:

Technical area: RUS Research type: Strategic Project ref.: 92006 OR No.: 61
Scope: Country-specific Country: India Region: SEARO

Principal investigator: Institution:
Chaudhury RR National Institute of Immunology, New Delhi
Collaborator(s): Institution(s):

Effective research period: 01 Mar. 1995 -

Publications:

Unpublished documents:
Proposal.

Abstract:
The objectives of the study are to determine: current prescribing patterns; patients' knowledge of dosage; the availability of drugs; and planning, ordering, storage, quality control and supplier selection practices. Various indicators have been identified, such as the number of drugs prescribed per encounter, percentage of generic drugs prescribed, percentage of encounters which result in prescriptions for antibiotics and injections, percentage of drugs prescribed from the essential drugs list, average drug cost per encounter and patients' knowledge of correct dosage. Furthermore, the extent of variance between drugs prescribed and drugs dispensed will be measured. Finally, drug items which are prescribed frequently will be identified. Data collection will take place through the study of 700 medical records and 6,000 patient interviews from large and small hospitals and primary health care centres. Doctors, nurses and pharmacists will also be interviewed.
Title: Study on self-medication by urban people in three cities in Java

English title:

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<td>Purwanto</td>
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<td>Collaborator(s):</td>
<td>Amir</td>
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<td>Soelanto</td>
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<td>Suratri W</td>
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Effective research period: 01 Nov. 1992 - 01 Apr. 1994

Publications:

Unpublished documents:
Purwanto, Amir, Soelanto, Suratri W. Drug use survey in urban households located in Jakarta, Yogyakarta and Surabaya. Indonesia: Ministry of health, 1992-1993. (in Indonesian, executive summary in English)


Abstract:
This study was carried out in Jakarta, Surabaya and Yogyakarta and involved 2,428 households. It was found that the four major illnesses experienced by the households in the recall period were upper respiratory tract infection (70.6%), headache (39.7%), rheumatism (19.7%) and diarrhoea (4.9%). More than 60% of the sick people had self-medicated as a first treatment strategy and only 25% went to the health centre as their first option. Most respondents preferred to start with self-medication and proceed to the health centre afterwards if symptoms did not improve. Most of the drugs used in self-medication were OTC drugs (more than 87%). Prescription drugs were used in about 9% of cases. Most drugs were purchased in the informal sector. Sources of information on how to select drugs were previous personal experience with drugs, advertisements and suggestions from friends, neighbours or health personnel. Dosage instructions were learned from package inserts. The study recommended that appropriate information on rational drug use be provided to the public and to health providers and drug dispensers. A social marketing programme on this subject should be planned and aimed at the public as well as other interested groups.

As a follow-up of this first analysis, a method for analysing the pharmacological appropriateness of self-medication treatments was developed and a second analysis of data was performed. It shows that simple clinical conditions were more frequently treated by self-medication; in contrast only 18% of illness episodes with complex combination of symptoms were treated by self-medication. 15.8% of the treatments for common symptoms were rated as appropriate and 56.1% contained appropriate and unnecessary components. Potentially harmful treatments accounted for 15.6% of the treatments. However, the use of prescription drugs, especially antibiotics, is limited. It was concluded that in countries such as Indonesia, indicators measuring very severe inappropriate use of drugs by the population cannot help to identify problems which are of less importance. The appropriateness of the indicators developed in the research allow to identify priority problems which should be addressed to improve rational use of drugs by the population. Public education, regulations and discussions with top drug manufacturers are likely to have a positive impact on the situation.
Title: Malawi Essential Drugs Programme: drug use indicator survey

Unpublished documents:

Abstract:
The objectives of this study were to assess rational drug use and drug availability in Malawi in order to identify priorities for prescribers' training programmes. The availability of 27 predetermined drugs was investigated. It was concluded that these drugs were available in 67% of the health facilities. As regards the stock of eight marker drugs, stocks varied from quantities sufficient to cover consumption for 0.1 to 3.8 months. The average waiting time for patients was 20 minutes but only 54% of the patients had been examined and only 27% could correctly remember dosage instructions after leaving the dispensary. Consultation time was on average 2.30 minutes.

Rational use was investigated by looking at prescribing patterns. The average number of drugs per prescription was 1.84 but antibiotics were included in 34% of all prescriptions. Injections were found in 18.7% of the prescriptions. Only 0.5% of patients were not prescribed any drugs. Sixty four percent of cases with respiratory infections received one or more antibiotics. By far the majority of children with diarrhoea, 93.3%, received ORS. However, 82.8% of these children also received antimalarials indicating poor diagnostic practices. Participant observation confirmed that in many cases no blood slides or temperature were taken, and the diagnosis was solely based on personal history. It was recommended that prescribers should have more training in how to diagnose, how to prescribe and how to communicate with patients, particularly with regard to dosage instructions.
Public beliefs and practices concerning drug use in Malawi

Unpublished documents:

Abstract:
Qualitative research methodologies were used to investigate community knowledge, practices and attitudes influencing drug use in Malawi. Study findings showed that in general causes of illness were not well understood. The more educated respondents such as teachers and school pupils, had a better knowledge of illnesses and their causes than the average villagers. However, as pointed out in the report, knowledge did not mean that people behaved according to their knowledge. Determining factors with regard to illness behaviour were financial costs of preventive measures (such as nets, sprays and coils to prevent the transmission of malaria) and habit. Sometimes diseases such as malaria, anaemia or measles were believed to be due to witchcraft and traditional healers, rather than health facilities, would be visited (it is unclear what percentage of patients went to a traditional healer). Potentially dangerous conditions, such as dehydration in infants, would sometimes be treated at home or receive no treatment at all. In general, when people sought allopathic treatment, they seemed to prefer mission hospitals which charged a nominal fee rather than free Government services. Confidence in the services offered seemed to be the major determining factor for treatment strategies. Personnel at Government health centres were perceived to be rude and indifferent to patients' needs and there were many communication problems between patients and health workers. Self-medication was common and people purchased drugs such as analgesics, cough and cold remedies and antibiotics. The report ends with specific recommendations on public education in the areas of health, disease recognition and appropriate drug use. In particular, face to face communication strategies as well as posters, newspapers, radio and other strategies to reach the general population were recommended.
Title: A study of the prescribing habits of health workers in eight townships in Myanmar

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**Principal investigator:**
Myint H
Collaborator(s):
Swe M
Dawson D
Myint NW

**Institution:**
Myanmar Essential Drugs Project, Department of Health

**Planned research period:** 01 Jul. 1994 - 31 Dec. 1994
**Effective research period:** 01 Jul. 1994 - 31 Dec. 1994

**Publications:**

**Unpublished documents:**

**Abstract:**
This study focussed on the prescribing habits of health workers in eight townships. One hundred prescriptions were collected from each health facility in the area using a systematic sampling procedure. A total of 25,890 prescriptions were analysed. Some observation of diagnosing, prescribing and dispensing was also carried out in selected facilities.

It was found that health workers at all levels performed better in project areas (5 townships) than in control areas (3 townships) in terms of:
- a higher percentage of generic drugs on prescriptions;
- a higher percentage of drugs from the national list of essential drugs on prescriptions;
- a lower percentage of steroids on prescriptions (although these figures were low in all townships);
- a much higher percentage of prescriptions which were in accordance with standard treatment schedules (it is not indicated whether standard treatment schedules were available in some form in the control areas);
- a much lower percentage of prescriptions which included vitamins.

However, there were no significant or positive differences between control and project areas in terms of number of drugs per prescription and percentage of prescriptions with one or more injections.
Title: Knowledge, attitude and practices regarding drug use in the Nile Province

English title:

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<td>El-Tom AR</td>
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Publications:

Unpublished documents:

Abstract:
The objectives of this qualitative study were to analyse the major health problems; availability and accessibility to health care and drugs; the extent of use of traditional and modern medicine; the existing communication channels; and knowledge, attitude and beliefs concerning medication use. Focus group participants and key informants were interviewed for this purpose. It was found that infectious diseases were major health problems. Modern medicines were preferred to traditional medicines, but drug shortages decreased the use of services. Neither private nor community pharmacies existed in most rural areas and people often had to wait for a number of days before the required drugs arrived. Many therefore tried to obtain the prescribed drugs from drug hawkers, neighbours or relatives who had leftover drugs. Once drugs did arrive at health facilities, they were usually hoarded and kept in households for future use. Another source of drugs was individuals who worked in Gulf countries. They would buy drugs there to take back to Sudan. Most people complained of the high price of drugs. Antimalarials and antibiotics were usually sold at three to four times the normal retail prices. The research also revealed that people used drugs in very inappropriate ways, resulting in ineffective or harmful treatments. Some of these practices were due to popular beliefs about drugs and some were related to difficulties in understanding dosage instructions. The research findings will be used for developing information, education and communication materials.

Ensuring a regular and uninterrupted supply of essential drugs would alleviate many of the problems of irrational use and hoarding of drugs. The problem is not so much insufficient quantities of essential drugs as it is the irregularity of supplies. An improvement in this area should be combined with improved managerial measures and a public education programme on the rational use of drugs.
Title: Research on the popularity of injections

Technical area: RUS  Research type: Strategic  Project ref.: 88047  OR No.: 48D
Scope: Country-specific  Country: Thailand  Region: SEARO

Principal investigator: Reeler A
Institution(s): Institute of Anthropology, University of Copenhagen
Collaborator(s): Hematorn C
Institution(s): Department of Public Health Nursing, Mahidol University, Bangkok

Planned research period: 01 Oct. 1990 - 01 Apr. 1994
Effective research period: 01 Oct. 1990 - 01 Apr. 1994

Publications:

Unpublished documents:

Abstract:
The research showed that in 26% of the households surveyed at least one person had received an injection in the previous two weeks. Almost 9% of all children between one and six years of age had received an injection in the recall period. In terms of the number of children who sought treatment, as many as 40% received an injection as part of their treatment. Twice as many women as men received injections. All of these patients received their injections from the formal health care system. At the health centre 42% of patients received injections, at the district hospital the figure was 33% and for those patients who chose private medical clinics the figure was as high as 79%. It should be noted that the informal sector accounted for only a very limited proportion of the injections administered. The study recommends that health planners, who seek to limit the number of irrational injections, take as a starting point people's own explanatory models. Local cultural notions such as the Buddhist emphasis on moderation or the traditional concept of a balance between body elements could be used in educational strategies. Health education in schools and for mothers could also be carried out. Health workers need more training on essential drugs in general. However, it is pointed out that most providers were already well aware of the irrationality of most injections but they administered them anyway. In these cases social and business pressures were often more important than knowledge of correct treatment.
Title: A study of individual competencies for the practice of community & hospital pharmacy

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**Principal investigator:** Hazemba O  
**Institution:** Pharmaceutical Services, Ministry of Health, Lusaka

**Collaborator(s):**  
**Institution(s):**

**Publications:**

**Unpublished documents:** Proposal.

**Abstract:**
The purpose of the study is to define the role of the pharmacist in the promotion and implementation of the National Drug Policy. The study will be carried out in two phases. Phase one consists of panel discussions by pharmacists from relevant private and public sector practices. The panel members will complete a predesigned questionnaire which will be returned to the principal investigator. The results of the analysis will be presented to the panel for final discussions and consensus. In phase two a new questionnaire will be posted to all pharmacists (150) in the country. The results of this survey will be resubmitted to the original panel.
Title: Country evaluation of WHO Ethical Criteria for Medicinal Drug Promotion

English title:

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Principal investigator: 
Sittithi-Amorn C

Institution:
College of Public Health, Chulalongkorn University, Bangkok

Collaborator(s):

Institution(s):

Effective research period: 01 Jan. 1995 -

Publications:

Unpublished documents:
Proposal.

Abstract:
The aim of the study is to improve the use of drugs by facilitating their more ethical promotion. Key objectives are to develop monitoring instruments for measuring the implementation of WHO's Ethical Criteria for Medicinal Drug Promotion and to present findings and recommendations to relevant national and regional bodies in a manner likely to produce change. Such activities will also build and strengthen a multi-disciplinary, multi-national team of health workers committed to action-oriented research. Steps along the way will include an assessment of the extent to which the WHO Ethical Criteria for Medicinal Drug Promotion have been incorporated into the national drug policies, the regulatory systems, the professional codes and the industry codes of the countries studied. Furthermore, it it intended to assess the situation in each country with respect to the WHO criteria for drug promotion ethics in the areas investigated. The first year of the study in Australia, Indonesia, Lao PDR, Sri Lanka, Thailand and Viet Nam has already been completed and progress has been reviewed. The methodology for 1996 has also been refined. Four more countries, China, India, Malaysia and the Philippines are expected to join the study in 1996.
Title: Utilisation des antibiotiques dans trois pays d'Afrique de l'Ouest

English title: Antibiotic use in three West African countries

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**Principal investigator:**
- Michard F
- Aby Sy
- Kane Cheich Tourad

**Institution:**
- Hôpital Bichat, Paris
- Ministry of Health, Dakar
- Ministry of Health, Niamey

**Institution(s):**
- Ministry of Health, Nouakchott


**Publications:**

**Unpublished documents:**

**Abstract:**
The study investigated the use of antibiotics in Mauritania, Niger and Senegal. The organization of the pharmaceutical sector of each country was analysed. The study also analysed a sample of outpatients who were prescribed an antibiotic and a sample of inpatients treated with antibiotics. This was done at different levels of the health care systems. Physicians and non-physician prescribers were interviewed and antibiotic sensitivity tests from the previous three months were analysed. Results showed that antibiotics are the most frequently used drugs (27.3% of outpatients and 51.7% of inpatients received antibiotics). The irrational use of antibiotics observed could be explained by several factors: lack of availability or low financial accessibility to drugs, insufficient training, lack of diagnostic tools and the absence of laboratories for bacteriological tests. Most diagnoses were based only on clinical signs and treatments were frequently inappropriate. This leads to the resistance of species of bacteria to the most commonly used antibiotics. The situation could be improved by better drug supplies, the promotion of rational drug use and the implementation of national drug policies.
Title: Research on the use of injections in Indonesia

Technical area: RUS  Research type: Strategic  Project ref.: 88047  OR No.: 48B
Scope: Multi-centre  Country: Indonesia  Region: SEARO

Principal investigator: Salan R  Institution: National Institute for Health, Jakarta
Collaborator(s): Murad J  Institution(s): National Institute for Health, Jakarta


Publications:


Unpublished documents:

Abstract:
This research project was also implemented in Uganda and Senegal. The objectives of the research were: to estimate the extent to which injections are used as a route for the administration of medicines; to determine the type and degree of improper and unsafe practices in the process of administering injections; to gain insight into why injections are so popular; and to develop a rapid survey methodology for future assessment of the extent of inappropriate injection use. Both qualitative and quantitative methods were used in this investigation into injection practices in two provinces, Lebak and Lombok. The percentages of households receiving one or more injections in the previous two weeks were 42% in Lebak and 45% in Lombok. Looking at the total study population, that is all members of households, one in ten inhabitants had received an injection in the previous two weeks. There was no statistical difference between urban, suburban and rural sites in this respect. The injection rate of young children was twice as high as the average rate for the total population. In spite of originating mainly in the public sector, most of the injections were unnecessary and inappropriate. The majority of providers, who were mainly nurses and midwives, were aware of the irrationality of administering these injections. But they did so anyway so as not to alienate their patients. In about 50% of the cases in which injections had been received, the patient had requested them. However, some mothers stated that they normally had no say in deciding on the treatment. The lack of communication between health worker and patient was highlighted by the findings of this study. It was also found that the way injections were administered was often unsafe, thereby creating risks of transmitting hepatitis and HIV. A synthesis report drawing on results from the studies in Indonesia and Uganda will be available soon. It will compare the studies, using the indicators developed during two preparatory workshops (WHO/DAP/92.9).
Title: People's perception and use of drugs in Nepal

English title:

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<tr>
<td>Kafle KK</td>
<td>Institute Medicine, Tribhuvan University, Kathmandu</td>
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<tr>
<td>Gartoulla RP</td>
<td>Institute Medicine, Tribhuvan University, Kathmandu</td>
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Planned research period: 01 Oct. 1988 - 01 May. 1990
Effective research period: 01 Apr. 1989 - 31 May. 1992

Publications:

Unpublished documents:

Abstract:
This study was conducted in Nepal and Zimbabwe. The objective was to gather information on self-care, especially knowledge, attitudes and practices concerning drug use in self-care. Also, it aimed to measure the impact of educational interventions on health issues, including the appropriate use of herbal and allopathic medicines. The research revealed a health situation in communities characterized by hygiene-related diseases such as gastro-intestinal disorders, diarrhoea etc. The public health system did not have sufficient supplies of drugs and most people were turning to traditional healers and private drug stores for treatment. In addition, some community leaders also dispensed allopathic or traditional medicines. Neither providers nor consumers had much knowledge about preventive measures or rational use of medicines.

The findings were used to design educational interventions for providers and consumers. The level of knowledge was evaluated two and six months later. The consumer training had mixed results, some subjects seemed to have been misunderstood by consumers. Interestingly, the training seemed to have had a "spill-over" effect in the control area, where knowledge of side-effects and kit-boxes of medicines increased in spite of no intervention having taken place. The training of providers produced more homogeneous results. There was an improvement in preventive and curative practices in the community. This training was particularly commendable for the way in which it sought to integrate various systems of medicine into an appropriate referral system for patients. It correctly reflected the reality of people's plural treatment scenarios rather than ideological or professional categories. The strength of this research project was its emphasis on the practical use of the research findings.
Title: Research on the use of injections in Senegal

English title:

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<tr>
<td>D'Almeida L</td>
<td>Association de Recherche, Dakar</td>
<td>Institution(s):</td>
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Effective research period: 01 Jan. 1990 - 01 Jul. 1993

Publications:


Unpublished documents:

Abstract:
This research project was also implemented in Indonesia and Uganda. The objectives of the research were: to estimate the extent to which injections are used as a route for the administration of medicines; to determine the type and degree of improper and unsafe practices during the administration of injections; to gain insight into why injections are so popular; and to develop a rapid survey methodology for future assessment of the extent of inappropriate injection use. Both qualitative and quantitative methods were used. A final report is available in French. The report showed that in the Senegalese study areas, the overall percentage of households receiving one or more injections in the recall period was 27%. Most injections seem to have been administered in dispensaries or in hospitals.
**Title:** Injection use and practices in Uganda  
**English title:**

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**Principal investigator:**  
Birungi H  
Collaborator(s):  
Asiimwe D  
Whyte SR  
*Institution:*  
Makerere Institute of Social Research, Kampala  
Institute of Anthropology, University of Copenhagen

**Planned research period:** 01 Jan. 1990 - 31 Dec. 1992  
**Effective research period:** 01 Jan. 1990 - 31 Dec. 1994

**Publications:**


Hardon A. Why are injections so popular? World Health 1992 March-April: 18-19


**Unpublished documents:**

**Abstract:**
This research project was also implemented in Indonesia and Senegal. The objectives of the research were: to estimate the extent to which injections are used as a route for the administration of medications; to determine the type and degree of improper and unsafe practices in the process of administration of injections; to gain insight into why injections are so popular; and to develop a rapid survey methodology for future assessment of the extent of inappropriate injection use. The study took place in Indonesia, Senegal and Uganda. Both qualitative and quantitative methods were used. The document WHO/DAP/92.9 is a report of the two workshops organized for the coordination and review of preliminary results. Household surveys in two regions of Uganda found a prevalence of injection use at the household level of 25 and 30% respectively. Furthermore, 72% of prescriptions in Busoga and 59% in Ankole contained injections. In the same two regions, 63% and 83% respectively of the sampled households owned their own needles and syringes. This personalization of biomedical technology was seen as a means of avoiding AIDS. The present practices of health workers seemed to support this phobia by accepting private injection equipment brought by patients. Standard hygiene procedures at health facilities were rarely satisfactory. The report concluded that the culture of "personal injections" poses a growing threat, as injection providers increase in numbers and as people develop more confidence in non-formal providers. The report includes recommendations for the dissemination of the results, the training and education of health workers and the public, and intervention strategies aimed at changing people's attitudes to injections and sterilization procedures. A synthesis report drawing on results from the studies in Indonesia and Uganda will be available soon. It will compare the studies, using the indicators developed during two preparatory workshops.
**Title:** People's perception and use of drugs in Zimbabwe

**English title:**

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**Principal investigator:** Nyazema N  
**Collaborator(s):**

**Institution:** Department of Pharmacy, University of Zimbabwe, Harare

**Institution(s):**

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**Planned research period:** 01 Jan. 1988 - 30 Dec. 1990  
**Effective research period:** 01 Jun. 1988 - 30 Dec. 1992

**Publications:**


**Unpublished documents:**

**Abstract:**

This study was conducted in Nepal and Zimbabwe. The objectives were to collect data on people's perception and use of drugs; to evaluate the impact of an educational intervention on the rational use of drugs; and to develop a time-limited methodology for assessing the main cultural and contextual factors which influence people's use of drugs. The study in Zimbabwe produced several interesting results, although the methodology employed was not always optimal. Among the findings was that most diseases were perceived by people as being as caused "naturally" by an unhealthy physical environment. But there were other diseases, such as sunken fontanel, which were thought to be "supernaturally" caused. Irrespective of the perceived cause of illness, more than 90% of the people who had been sick in the previous two weeks did not seek any treatment at all. When presented with hypothetical cases of illness, 46% of the respondents said that they would visit traditional healers while 23% said they would use allopathic health care facilities. Self-medication with over-the-counter drugs and herbal remedies was preferred by 27%. In general, rural people had no idea about side-effects of drugs. When people did experience side-effects, they were thought to be a worsening of the illness. This may be part of the reason why only 13% of patients completed the full course of a drug treatment. By far the majority of respondents also discontinued the treatment if symptoms abated and kept the rest of the drugs for future use. This pattern has to be seen in the context of an almost constant shortage of drugs in rural health facilities. Drug sharing among friends and relatives was common and sometimes the colour of, for example, capsules would determine their use (the colour blue was associated with treatment of sexually transmitted diseases).
Other documents in the DAP Research Series

No. 1 Injection practices research
No. 2 How to investigate drug use in communities
   (available also in French)
No. 3 Operational research on the rational use of drugs
No. 4 Development of indicators for monitoring national drug policies
No. 5 People's perception and use of drugs in Zimbabwe
No. 6 Operational research in the Action Programme on Essential Drugs:
   Report of an informal consultation
No. 7 How to investigate drug use in health facilities:
   Selected drug use indicators
   (available also in French and Spanish)
No. 8 Stability of injectable oxytocics in tropical climates:
   Results of field surveys and simulation studies on ergometrine,
   methylergometrine and oxytocin
No. 9 Prescription des antibiotiques dans trois pays d'Afrique de l'Ouest
   Mauritanie, Niger et Sénégal
No. 10 Self-medication and its impact on essential drugs schemes in Nepal
No. 11 Injection practices: A case study in Thailand
No. 12 Stability of oral oxytocics in tropical climates
No. 13 Stability of essential drugs in tropical climates: Zimbabwe
No. 14 Injection use and practices in Uganda
No. 15 Community health workers and drugs: A case study of Thailand
No. 16 Use of the WHO Certification Scheme on the Quality of
   Pharmaceutical Products Moving in International Commerce
No. 17 Impact of a short course in pharmacotherapy for undergraduate medical students:
   An international multicentre study
No. 18 La qualité des médicaments sur le marché pharmaceutique africain
   Etude analytique dans trois pays : Cameroun, Madagascar, Tchad
The WHO Action Programme on Essential Drugs seeks to ensure that all people, wherever they may be, are able to obtain the drugs they need at a price that they and their country can afford; that these drugs are safe, effective and of good quality; and that they are prescribed and used rationally. It provides operational support to countries in the development and implementation of national drug policies based on the concept of essential drugs and it promotes the rational use of drugs at every level.

Ensuring access to and rational use of drugs for all people is a difficult goal in itself. It is made even more complicated to achieve by rapidly changing macro-economic and national environments. Countries are experiencing the effects of international adjustment and stabilization policies; globalization of world markets; new disease patterns; widespread health system reforms with shifting priorities, and a changing relationship between the public and private sectors. Governments lack crucial information to guide their national drug policies in response to these challenges.

Operational research makes a vital contribution to identifying global and national drug sector problems and priority areas for intervention. At global level, the systematic development and analysis of internationally comparable data on pharmaceutical systems strengthen national drug policy by enabling countries to learn from each other’s experience. At national level, research assists countries in analysing the constraints they face in developing and implementing drug policies and in gaining knowledge about the best means of selecting, procuring and distributing drugs, as well as the use of drugs by prescribers and consumers. The results of such operational research have a direct bearing on strategies to make vital medicines available and accessible to the greatest number of people.

This document is part of a series reporting on the activities and results of the Action Programme’s operational research.