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Review Article

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Standard Operating Procedure for Drug Information and Resource Center in a Tertiary Institution

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Abstract Pharmacists now need a higher level of competence in other to meet drug information needs of their clients. The objective of this article was to map out the Standard Operating Procedure in the establishment of a drug information and resource center (DIRC) in a State University in Nigeria. The main functions will be provision of drug information services, medication counseling, professional training and other related activities. Those to operate the DIRC will require specific training in communication skills, knowledge of literature resources and dissemination skills. The requirements for the center include infrastructure, staff structure and funds. Drug information sources will comprise tertiary, secondary and primary literatures. Drug information is a fine-tuning channel to getting to a zero defect in medication error. Therefore, competence and co-operation among all health care professionals in the facility are needed to make a success of the project.

Keywords Standard, Operating, Procedure, DIRC, University

Introduction

The new trends in pharmacy practice such as increased services in the provision of medication therapy management have placed pharmacists in increasingly complex patient-care roles. This in turn has led to pharmacists needing a higher level of competence in other to meet drug information needs of their clients. In order to improve the quality of patient care and outcome, there need to be carefully evaluated and evidence-based information on medication-use practices that ensure if not economic but judicious use of the scarce resources[1-2]. In addition, WHO advocates establishment of independent drug information centers that help promote rational drug use as a core component of national programs [3-4]. The objective of this article is to map out the Standard Operating Procedure in the establishment of drug information and resource center (DIRC) situate in a State University environment in Nigeria.

Location of the Dirc

The drug information and resource center (DIRC) will be located within the Faculty of Pharmacy complex at Sagamu campus of Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria for ease of accessibility by those it intended to serve.

Who Will This Dirc Serve?

The DIRC as a pilot scheme will make pharmacy-based services available to all Pharmacy students and Faculty of Pharmacy staff members. Its objective is to support the safe, effective and rational use of medications through the provision of evidence-based information that will enhance their therapeutic outcomes.

What Services Will Be Provided At This Dirc?

1. Provision of drug information services
2. Answering queries on all aspects of the therapeutic use of drugs
3. Documenting the queries asked and answers provided
4. Provision of Pro-active information through release of bulletins/newsletters
5. Dissemination of unbiased drug information
6. Rendering medication counseling services to patients
7. Consumer education and professional training for health-care professionals in promoting rational use of drugs.
8. Precepting and educating pharmacy students
9. Participating in quality improvement research projects
10. Educating health care professionals on safe and effective medication-use including development of resources to communicate this information

Setting-Up the Drug Information and Resource Centre

a. Infrastructure

The DIRC should have enough space for its various activities – at least two rooms for a start. One large room should be reception room for those in need of drug information /receptionist office as well as for meetings with other clients etc. The smaller room can be the DI Pharmacist's room/storage of reference materials/counseling room etc. The center should be well ventilated and well lit.

b. Facilities

- Basic equipment required for the DIR center include: • furniture -desks, chairs, shelves • communications - telephones, constant internet access, • computers -including external data backup, printer • software- for word processing, spread sheets, databases and presentations • photocopier, projectors, • constant light • textbooks and electronic information resources.

c. Staff Structure at the DIRC

The center should be staffed by pharmacists and technicians who have clinical expertise, and special training in locating, assessing and interpreting information about drugs and related products including patient care. Various members of staff have individual responsibilities in the effective functioning of the DIRC. One Drug Information Pharmacist trained personnel should be designated Drug Information Pharmacist (DIP) or Drug Information manager (DIM).

Roles of the DIP or DIM should include the following

- Visit the DIC almost on a daily basis to oversee its working and ensure that the center is functioning efficiently as much as possible.
- Conduct group discussions for the enquiry seekers in the DIRC.
- Develop and monitor the weekly work plan as per the performance indicators
- Arrange weekly and monthly meetings with the DIRC staff to identify challenges and Plans to surmount them
- Engage in staff capacity building
- Develop DIRC policies and plans.
- Analyze project activities and evolve improvement plans.

d. Professional responsibilities of the DIP

The professional requirements of a drug information practitioner include excellent communication skills and a good clinical approach. The DI pharmacist should respond quickly to simple queries and devote time in searching for answers to complex queries.

Specific training required by drug information practitioners

Apart from clinical knowledge and experience, practitioners in drug information centers need the following [5-6]:

• Communication skills to receive and understand presented enquiries
• Knowledge of literature resources available
• Literature searching and analyzing skills
• Capacity for critical thinking and analysis of the enquires
• Writing and dissemination skills
• Ability to understand and summarize complex information

e. Management

For the good performance of the service the DIRC requires managerial abilities from the stakeholders. Continuously decisions are made which have a direct impact on the success of the center. A DIC requires coordination, monitoring and promotion. Management is therefore an important component of a successful drug information center.

f. Funding required

A drug information center should have an independent source of income and status in order to guarantee the stability and achieve its objectivity. Funding from external organizations may not be accepted unless the center's neutrality is guaranteed. Free services should be provided to enquirers or through a contract arrangement which does not hinder appropriate use of the service. If need be, separate charges may be collected for specific reports which do not directly relate to individual patient care. For the continuous viability of the center enough resources should be invested in the DIRC.

g. Drug information literature sources [7-8]

Prior to any literature use, the pharmacists should Endeavour to evaluate it and ensure that it is unbiased, current and accurate. The DIRC Pharmacists should network with other organizations and ensure the availability of primary, secondary, tertiary literature resources which are needed in answering clients' requests. They should be familiar with the features of each resource to make room for efficient searching. The following factors should be put into consideration when ordering DI resources for the DIRC:

1. Take note of the features of the literature sources (e.g. frequency of updates, qualifications of authors, year of publication, type of information contained and cost).
2. Practice setting (e.g. needs of health care professionals within that environment).
3. Accessibility of the resource (e.g. number of users allowed by subscription).

There are various sources of drug information, ranging from international databases, journals and reference books to national and locally produced formularies and bulletins [9-10]. Some are commercial while others are non-commercial. Information is either available verbally or in written form, can be on tape, video, on-line, or in CD-ROM. The DIR center should have its own library of most commonly used resources. Additional books and other publications could be available in electronic form. The above literature sources can be classified into three different classes which include primary, secondary and tertiary sources.

i. Primary Literature: Primary literature forms the foundation of the literature hierarchy. It forms source of information for secondary and tertiary literature resources. Primary literature comprises original researches such as research studies, case reports, editorials, and letters to the editor. Majority of primary literature sources contain a detailed description of the study design, methods and results. The reader is able to analyze the study and arrived at a reasonable conclusion. Examples of primary resources include research articles and studies published in Journal of the American Medical Association, British Journal of Clinical Pharmacology, Archives of Internal Medicine, Annals of Internal Medicine, Lancet, British Journal of Pharmacy and Pharmacology, Clinical Pharmacy and Therapeutics, British Medical Journal, American Journal of Health Systems Pharmacy, New England Journal of Medicine.

ii. Secondary Literature: The secondary literature is compiled by indexing and abstracting services that is used to systematically locate various types of published literature. The indexing system provides bibliographicsaccordingly by topics where the user can have a concise view of information of the cited articles. Known examples of secondary literature databases are PubMed (Medline), Embase, National Library of Medicine Gateway, International Pharmacy Abstracts, Drug Bulletins, Drugs and Therapuetic Bulletin, Scopus, Standard Treatment Guidelines, WHO Drug Information, lowa Drug Information Services (IDIS), Adverse Drug Reaction Bulletins and Toxline.

iii. Tertiary Literature: It is summarized information from various original articles. They usually make up front life references. The information presented here is core knowledge established through primary literature or those accepted as standard of practice within the medical community. Tertiary references may be of textbooks on various drug or disease topics (e.g. Pharmacotherapy), compendia (a vast array of information about many drugs such as the Physician's Desk Reference) or online, full-text databases. As with any tertiary reference, the information should be assessed for bias. Some examples include textbooks, encyclopedia articles, guidebooks, and handbooks, Micromedex, The complete Drug Reference, Drug Facts & Comparisons, Drug Interactions, Drugs in Pregnancy & Lactation, Goodman & Gilman's The Pharmacological Basis of Therapeutics, Hand Book of Non-Prescription Drugs, WHO Model Formulary, BNF (British National Formulary), Harrison's Principles of Internal Medicine, Pediatric Drugs Hand Book, Physicians Desk Reference, Meyler's Side Effects of Drugs, United States of Pharmacopoeia Dispensing Information.

Some useful internet web resources:

1. World Health Organization Library site: http://www.who.int/hlt/virtuallibrary/english/ subject.htm
2. Australian Prescriber: http://www.australianprescriber.com

3. British Medical Journal: http://www.bmj.com/
4. The Free Medical Journal Site: http://www.freemedicaljournals.com 101
5. MEDLINE: http://nlm.nih.gov
6. Cochrane collaboration: www.cochrane.org
7. Biomail: http://biomail.sourceforge.net/biomail
8. SATELIFE: Free information services to health professionals: http://www.healthnet.org
9. Harrison's Internal Medicine: http:// www.harrisoneonline.com

Systematic Approach for Responding to Drug Information Requests

A systematic approachmay be carried out as follows [11-12].

1. **Identification of the requestor**: This becomes necessary where complete information is needed to response in the right perspective, considering the health literacy status and professional level of the requestor.
2. **Define the true question and information needed**: Understand the question and information needed by asking more questions from the requestor. You could ask "What is the reason for this question being asked?" and "Does the question concern particular patient. The information may help to identify the search type and the required time needed for the response.
3. **Obtain background information**: Obtain detailed background information, including the patient's medical record if available to individualize each requestor's need.
4. **Categorize the question**: Put there quests into different categories such as patient-specific or academic type of question. This is to help tailor the search strategies to the appropriate resources.
5. **Carry out a systematic search**: Do a systematic search of tertiary, secondary, and primary resources, as well as electronic resources as deemed necessary.
6. **Analyze the information**: Evaluate the information from all the resources used.
7. **Disseminate the information**: Disseminate the information in oral or written form or both as necessary to the requestor. Note the type of information requested, its urgency, and for what purpose may likely influence the response style.
8. **Document**: Document the request, resources used, what was found, total amount of time spent on producing the response, and the response eventually provided to the requestor.
9. **Follow-up:** Carry out a follow-up assessment to know if the information provided was used and if there were changes in medication-use practices or patient outcomes.

Documentation and Quality Assessment [13]

Documentation of enquiries is an essential aspect of any DIC. The documentation should contain the details of the enquiry, enquirer and type of inquiry. Documentation is critical to appropriate patient care, to highlights the value of pharmacist services and to demonstrate accountability. Consequently, whether academic or population-based or any type of DI activities, it should be appropriately documented. Some DI centers have however reported the use of double-check systems prior to their providing a response such as random retrospective audits by DI specialists or other qualified individuals to obtaining feedback from requestors as well as carrying out an internal review by a committee as ways of performing quality assessments.

Standards of Conduct For Dirc Staff

These are a set of guidelines for ethical and professional conduct to be followed by the DIRC staff. The code of conduct clearly state basic things expected of the staff as professionals working in the DIRC. These should be strictly followed by all staff members regardless of their job levels or job experience. Code of conduct for DIRC staff should include the following [14-15]:

1. Every DIRC staff member should respect the confidential nature of his or her work.
2. All staff members should respect and maintain the confidentiality of clients or information requestors.
3. Staff members should not accept any personal gift or money for services from a client.
4. No staff or client should sell or purchase any item within the DIRC premises
5. DIRC staff should not promote personalized views of any religion nor any type of therapy.
6. DIRC staff should not carry out their official jobs under the influence of alcohol or drugs.
7. Borrowing of reference books and properties of DIRC is prohibited.
8. Safety and security must be enforced within and outside the DIRC premises.

Suggested Ways to Improve Attendance at the Dirc

A number of issues may affect attendance at the DIRC. These may include staff related issues, proximity of the DIRC to the clients or services available at the DIRC.

- The staff at the DIRC has to maintain a friendly relationship with clients and should never be disrespectful or judgmental regardless of the clients 'status.

- The DIRC should be properly run with consistent opening and closing hours and constant availability of services.
- Entertainment services, such as TV and movies may make DIRC attractive to clients.
- Suggestions on DIRC service improvement should be encouraged from clients.

Record Maintenance

The records of activities and relevant data should be properly preserved in the record cupboards for future reference or to be used for both internal and external monitoring and evaluation. The DI pharmacist/manager should conduct periodic reviews of the records and analyze them in order to improve the functioning of the center.

Challenges for Running a Dirc

From time to time the DIRC staff may need to advocate their service to its supporters and users because it could be seen as expensive or limited in scope. Certainly, there is evidence that DICs are important institutions in healthcare and do help to save resources. There should be a strong commitment and dedication to the service by the leadership, which should eventually translate into a full time service**.**

Conclusion

All pharmacists are required to be involved in the provision of DI, which includes a broad array of activities. It is essential to create awareness of these services among physicians, pharmacists, nurses and consumers so that they could come all out to take advantage of these services. Drug information is a fine-tuning channel to getting to a zero defect in medication error or to optimize drug therapy outcomes. Therefore, competence and co-operation among all health care professionals in the facility are needed to make a success of the project. Lastly but not the least drug information services provided must be free, failing which many requestors may not have access to such services.

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