

Drug Information Centers in developing countries and the promotion of rational use of drugs:

A viewpoint about challenges and perspectives

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The rational use of drugs has been a matter of concern to society and there are many situations that may lead to irrational drug use. It is for instance estimated that one third to half of all medicines are wasted, with obvious negative impacts on economy and on health. Additionally, the burden of diseases that are not well treated and the misuse of antibiotics lead to resistance in microorganisms, which in turns leads to more difficult and often expensive treatments.

Health professionals, decision-makers and consumers, who play a key role in this field, are rarely involved in the promotion of rational drug use in developing countries.

And, in those countries, there is an imbalance between promotional information and independent information on medicines for consumers and health professionals. They both receive a lot of advertisements for drugs, directly or indirectly. In addition, most health professionals aren't trained to evaluate critically the information received, which makes the situation worse. In brief, this lack of independent information easily leads to irrational selection, prescribing, dispensing and consumption of medicines, which could harm patients and negatively impacts on health economics.

Additionally, in developing countries there is a high prevalence of self-medication in different social classes. Although responsible self-medication is a right for all, health professional should warn consumers about the fact that much of the available drug information is biased.

Finally, unbiased drug information (DI) sources are difficult to access. In general, developing countries themselves do not produce DI sources, or the updating is difficult and lags behind. Sometimes foreign sources might not be used because people do not know they exist, cannot afford high costs of those resources, or because most good sources are in English and not everyone can read it. Lastly, there are drugs that are only available in a developing country, and not where the DI source is produced.

All these facts are a threat to the promotion of the rational use of drugs in a developing country. How can they be faced and overcome?

Training clinical skills

Many developing countries have tried to set up drug information centers. In such DICs, professionals know that they need to develop more clinical activities and also contribute to a culture-change, even among pharmacists and pharmaceutical institutions.

But most colleges of pharmacy in developing countries do not have the training of clinical skills in the under or post-graduation curriculums. Because clinically skilled pharmacists are essential to run drug information services, this situation can become a challenge to those who decide to work in this area. In the last decades, the international development in clinical pharmacy seems to have had little impact on undergraduate curriculums and only few post-graduate curriculums have been developed and implemented in developing countries. In the mean time the impact of such programs on the clinical and professional skills still has to be proven.

Besides their daily work at the DICs, DI officers will also be involved in other (teaching) activities. This burden can be difficult and requires a strong commitment with the service and promotion of rational drug use.

In order to deal with them, it is important to realize the lack of clinical skills of pharmacists. To immediately improve the clinical background of the DI officer, a solution can be found in partnering with other health professionals like individual physicians and nurses or their organizations. A complementary strategy could be to teach health students drug information practice, which will have results in the future.

Managerial skills

For the good performance of the service, DICs require managerial abilities from their team members. Continuously decisions are made which have a direct impact on the success the center. For example, although promoting the service is recommended in general, the decision to promote it is a managerial task. Simply because

questions must be answered like: what activities will be promoted, why, to whom, when, how, how much and with what strategies and materials. When activities are performed, there is a need to follow up and look for feedback.

Just like the lack of clinical skills is a challenge for running a DIC in developing countries, so is the lack of the managerial skills. Managerial skills are essential to keep the performance good, including looking for funding (e.g., partnership), maintaining up-to-date drug information sources, enabling continuing education for drug information specialists, running quality assurance programs. These activities should be planned on a yearly basis, approved, performed and documented.

It is common that people have some resistance to accept a DIC for many reasons. Because it is a novelty inside an organization, a DIC requires some facilities to begin its activities and having the first results could take some time, e.g., several months. Then, DIC professional(s) should develop proactive activities like publishing a bulletin, photocopying and distributing it. This bulletin could show drug related problems (DRP) that came up in the institution and their possible solution through the services provided by a DIC.

Where can one learn managerial skills that are necessary in a DIC? Maybe there isn't a precise answer to this question. A possible solution is to do an in-service training in drug information practice, which should enable the trainee to take the first steps in managerial skills. Other possibilities include acquiring skills when running a DIC by self-teaching and experience. General managerial skills could be learned in an MBA course.

So, in order to be able to run a DIC, there should be a mix of clinical and managerial skills.

Role of DICs in developing countries

The main role of DICs in developing countries is the promotion and the provision of independent drug information to help rational use of drugs, which is a component of public health policies. Activities provided by DICs are the same everywhere and include answering questions (reactive information) –

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the cornerstone activity, write bulletins, participate in P&T Committee, formulary management, provide training related to drug information, investigate drug use, perform pharmacovigilance, and others. More information about DIC's activities can be found in many sources, for example in Malone et al.¹

However, few health professionals are aware of the services and even fewer incorporate it into their daily practice. And most of undergraduate and post-graduate health students don't know about the service because they have not been taught that it exists.

Although a DI-service in a way promotes itself, that is not enough. So, a proactive and continuous promotion of the service is necessary, so that people don't forget and can incorporate the service provided in their practice.

Some promotional activities are a difficult in a limited financial resource environment. But fortunately, there are now less costly and less time-consuming alternatives, like e-mail and websites that can be used to disseminate drug information and the service. The promotion is a managerial task and should be planned according to the staff, financial support, facilities, partnership and the service has to balance its activities.

A complementary strategy could be to teach pharmacy, medicine and nursing students to use drugs rationally and show the burden of irrational drug use. They can learn how drug information is produced, how to evaluate drug information critically, (including information on the Internet), and how to practice some DI activities.

Partnership is a good way to strengthen and to disseminate the service that can be done by running projects. They are a provision of a specific service that an institution requires (e.g., government) and pays for. Besides money itself, the payment could include drug information sources, computers, etc. Examples of projects include supporting government rational use of drugs campaigns and providing services, like drug use evaluation, to private health institutions. Therefore, DICs should add project development to their portfolio.

In brief, besides their regular activities, DICs in developing countries should also be involved in the promotion of their service, finding partners, teaching health students about rational use of drugs, and further develop drug information practices.

Requirements for setting up a DIC in developing countries

The two basic requirements to set up a DIC in developing countries are

- 1) a trained person to provide drug information and

- 2) updated drug information literature.

It is obvious that a DIC cannot work without financial support and office facilities.

In developing countries it is difficult to find professionals with the skills required to run a drug information service. As a result, people (preferably pharmacists) often must be trained - that is the first requirement. Here are some suggestions for the selection of a potential drug information officer.

The personal qualities required would be:

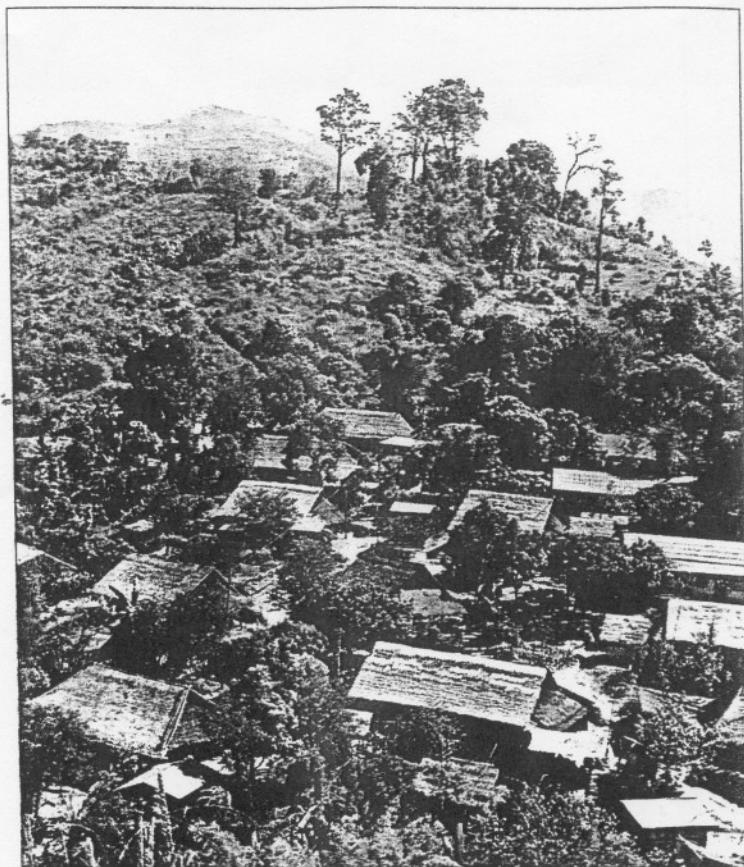
- knowledge of pharmacy and public health;
- English reading comprehension skills;
- computer literacy;
- good verbal and written communication skills;
- expressed interest and commitment to work in the field.

Selection typically would be done by health-professionals at the institution that is interested in setting up a DIC.

As for the training, the selected professional can be trained in an established DIC that provides this kind of training or in a specific training course. The teaching objectives should include:

- the role of DICs in the health system;
- the rational use of drugs;
- how drug information is produced;
- critical evaluation of drug information, including Internet;
- drug information service practices.

Training should also teach first steps of managerial skills.



A trainee also should write down a project to set up a drug information center in his institution for two reasons: a written project gives credibility to the proposal and it is under tutor's supervision and can be discussed before the final version.

Then, at the end of training, the trainee goes back to his/her institution with the responsibility to present the project to the institution director and, if possible, get the approval to set up the DIC. If the presented project is approved, the professional could ask those who trained him or her to coach the process of setting up the DIC.

The second requirement - up-to-date drug information literature - is another key issue for a DIC. There are many articles, books, and websites that suggest drug information sources that could be present in a DIC and it is not the purpose of this article to discuss them. A chapter in 'Managing drug supply' is such an example². But reliable free drug information can be found on the site of the British National Formulary (www.bnf.org), WHO Drug Information and WHO Pharmaceutical Newsletter (<http://www.who.int/medicines/information/infperiodicals.shtml>), and the WHO Drug Formulary (<http://mednet3.who.int/eml/model/Formulary.asp>). Also, there is a number of free drug bulletins like Australian Prescriber (www.australianprescriber.com); the Brazilian Evidência Farmacoterapêutica [Evidence Pharmacotherapy] (www.cff.org.br/cebrim/MedNovos/boletim.html), Uso

Racional de Medicamentos: temas selecionados [Rational Use of Drugs: select subjects] (<http://www.opas.org.br/medicamentos>) and Boletim da Sobravime [Sobravime Bulletin] (www.sobravime.org.br/select/publicacoes). The ISDB website (www.isdbweb.org/select/members) gives access to many others.

Challenges for running a DIC in developing countries

Sometimes, the staff in a DIC needs to advocate the service to its supporter(s) and users because it could be seen as expensive and/or limited in scope. But there certainly is evidence that DICs are important institutions in healthcare and help to save money. The WHO recommends setting up DICs and drug bulletins as useful ways to provide independent drug information. In addition, projects could be done to help to fund the center.

There should be a strong professional commitment of the leadership, which translates into a full time dedication to the service. In Latin America countries, many DICs fail and one of the possible reasons is that their director has other responsibilities. For example, many DICs located in colleges of pharmacy are directed and run by a professor and this could be the wrong approach.

Due to their activities, it sometimes is a challenge for DICs to remain close to pharmacists, physicians, nurses and others professionals. And this is necessary because they then can deal better with the promotion of rational drug use.

Quality assurance is another key challenge. It is useful to ensure that the performance of drug information services is continuously monitored and compared to a good standard. In literature many examples of DIC quality assurance indicators can be found. However, indicators should also be developed to monitor key process activities like number of questions answered per year, questions answered within 24 hours, user's satisfaction, the publication of a bulletin, participation in drugs committees (e.g., P&T), updating status of drug information sources, the continuing education followed by drug information specialists and the amount of activities developed.

Network of DICs

A network of DICs has been proposed to facilitate the exchange of information, share information resources and experiences, help solve difficult questions, develop drug information software, consolidate statistical data from DICs, identify patterns in requests, and develop research projects.

There are some helpful examples of activities that are organized and planned throughout a network of DICs in order to

strengthen them. A possible approach could be joint organization of training courses to improve the knowledge of the drug information specialists about topics like evidence based practices or pharmacoeconomics. A possible other approach could be providing specific services, creating partnership and finding financial support.

In Brazil, the Brazilian Drug Information System (SISMED – Sistema Brasileiro de Informação sobre Medicamentos) is a voluntary network of DICs. It currently has 21 members. The basic reasons for its foundation was to deal with the imbalance of drug information received by health professionals, to help the promotion of rational use of drugs, and to define a reference framework for the development of most DICs in Brazil. SISMED was created in 1996 during the First Meeting of DICs' officers, and was already planned in a project written by the author in 1992.

Some results of SISMED activities and achievements were published and include approval of the Protocol of Cooperation, a document that establishes the activities run by its members DICs in areas of information, education, research and partnership^{3,4,5}. It focuses on the reactive information with some norms to run drug information services, with the standard forms used, and with some service statistical measurements.

The pillars of SISMED include: training courses and in-service training to enable pharmacists to set up their institutional DICs; DIC's officers meetings (where the Assembly of DICs staff takes place); the Cooperation Protocol, approved at the DIC's officers meeting and signed by officers of new DICs that joins the System. Some challenges are: look for institutional and financial support; expand the number of the services, mainly in hospitals; disseminate the need of unbiased drug information to health professionals and to the public.

Conclusion

Drug Information Centers have been instrumental in improving the rational use of drugs. One of the reasons for setting up DICs is that health professionals and general people in general will receive drug information mainly from the pharmaceutical industry, and that information can be biased. Additionally, especially the new powerful and specifically acting drugs need precise, updated, unbiased, and digested drug information that must be used properly.

DICs in developing countries often face a number of common challenges, such as:

- lack of recognition, maybe because most people misunderstand their role;
- lack of permanent financial support;
- only few DI-officers employed and exclusively dedicated to the service;
- understaffing;
- lack of quality assurance programs;
- outdated drug information sources;
- inappropriate facilities;
- lack of clinical and managerial skills.

In spite of such challenges, it can be said that there are many experiences in developing countries, where DICs have improved their services. Such experiences, such as establishing a network of DICs, finding partnerships, and running of quality assurance programs, can be used elsewhere.

This article is based on literature and on the author's experience with DICs in a non-clinical working environment, mainly with pharmacists in Brazil. Therefore the expressed opinions could have limitations or be biased. The ideas, proposals and criticism are the sole responsibility of the author and intended to stimulate the discussion of DICs in developing countries.

The challenges described are common, but nevertheless the number of DICs around the world is slowly but continuously growing. This fact is the result of the need to promote rational use of drugs by more and more people. Installing a DIC is one of the strategies to do so. As more drug information specialists will be needed, it would be desirable to add the rational use of drugs and drug information practices to the curriculum of the health professionals.

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Author's note: For more supporting references, please contact the author.

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