TITLE:

Computer Technology application to drug information, formulary, label edition, and administrative management in Hospital Pharmacy

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SUMMARY

The aim of this report is to show our own experiences for two years (1982-1984) about the development of computer technology in hospital pharmacy in the Hospital Civil of Bilbao (Spain, 1100beds).
The following applications are described: Formulary, Administrative applications, label edition, Drugs Information (250 inquiries), Information Bulletin, (3 number), Bibliography and clinical applications (antibiotics policy and research on use of drugs).
The following advantages of the system are described: quick-search, avoid of papers and errors, results with a higher accuracy, arrange of information.
Disadvantages: Data base is hard, expensive and takes too many hours to develop. Also, the staff training involves additional work.

KEY WORDS: Electronic data processing, drug information, label edition, administrative applications,antibiotics policy, formulary.

INTRODUCTION

It is well known the fact that the administrative management of a general hospital pharmacy as well as the great number of data that are generated there, involves difficulties for the adequate organization of the department

Several anthors (Nelson 1979, Melhb 1978, Mercklenburg 1981) report the advantages of electronic data processing application (EDP) in a hospital pharmacy.

81,5% of the American hospitals where 57% have room for more than 500 beds, have their pharmacies mechanized.

In the past 20 years electronic data processing in hospital pharmacy has grown from applications that improved accounting procedures to sophisticated multifunctional integrated systems for institutional drug control and clinical pharmacy support.

Burlesson (1982) presented a literature review of computer applications in institutional pharmacy, covering papers published from 1975 to 1981. He described applications to administrative functions, contro-

lled substances, drug distribution systems, drug information, clinical services (including drug-use review, drug interactiones and therapeutic incompatibility surveillance, and pharmacokinetics) and pharmacy related to applications developed by nonpharmacists.

II. Material and Methods

In Jaunary 1982 the Hospital Civil of Bilbao (1100 beds) organized the computer department, and the hospital pharmacy began to work with it aiming to develop different applications.

Developed Applications

- Hospital formulary
- Administrative applications
- Label edition
- Drug information

Formulary

Background

Different experiences in the preparation of hospital formulary has been reported in the bibliography with E.D.P.: Hopes (1976) from the American Public Health Services accoplished a multicenter experience elabo-

rating a standard program to publish formularies in the hospitals that took part in the activities. His idea was to avoid repetition of the same work by other pharmacies.

Individually Elliot (1975), Low (1976) y Curtel (1980) also described experiences related to their own hospitals

Hospital Civil of Bilbao

The pharmacy developed a data base, listing all the drugs with all the pertinent information for the description of each drug.

The following fields of data were registered:

- National code
- Generic name code
- Registered (commercial) name
- Usual dose
- Therapeutic group
- Storage
- Maximun stock
- Minimun stock
- Supplier (national code)
- Characteristics

The following reports had been previously registered:

- List of generic name (numerical)
- List of pharmacological group (clasification AHPS)
- List of characteristics
- List of types of dispensed preparation
- List of suppliers

Each code number registered and used was the national code with six numerical digits and a seven letter that could be C,N,U corresponding to a clinic, average or unit-dose package.

The drugs that to not have a national code were registered in the following way: the first digit is a letter:

- X = Foreign drugs
- F = Drugs manufactured in hospital pharmacy
- M = Medical devices
- E = Special preparations

Formulary

The hospital formulary is made with a special program in the following way:

1.- General information

2.- Drugs description (in the paragraph corresponding to the generic name)

3.- Drugs classification according to pharmacological groups

4.- List of pharmacological groups

That was printed in a way it could be published small photocopies, avoiding registered data repetition leading to subsequent corrections

Drug information Service

1) Drug information Center

A number of 250 inquiries have been registered in the pharmacy drug information department from 1980 to 1984

A key-word was given to each inquiry that usually corresponded to the generic drug name or to the illness name

Descriptors words from the inquiry and the answer about it, along with the corresponding bibliography already reviewed, were recorded.

A table of contents related to the inquiries is made, with a program that the simplifies search, also, the search could be made throughout every text.

2) Bibliography

The three numbers of the bulletin written up are enclo-

sed. They are endorsed by the Pharmacy and Therapeutic Committee.

4) Access to information for other clinical departments

Computer terminals are being installed in the various clinical departments. Then those departments have the facilities to the recorded information

5) Clinical applications

Every antibiotic treatment is registered, That measure helps following the rules about a correct antibiotics policy.

Also, it provides information to the Pharmacy and Therapeutic Committee as well as the Infections Diseases Committee.

Conclusions

1.- Two formularies have been published (1982-84) in the Hospital Civil of Bilbao, with the computer technology help

2.- The maintenance of the formulary has been greatly simplified by using electronic data processing techniques. Although the preparation of an initial format is still time-consuming, revision gratly simplified using EDP.

3.- Computer technology application to drug information center has resulted in a reduction of time and efforts in the searches.

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