

# The pharmacy in Palau: an Australian perspective

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## Introduction

The pharmacy department at Belau National Hospital provides pharmacy services to the 80 bed hospital inpatients, outpatients, emergency room patients and also to field dispensaries on Babeldoab and several other islands of Palau, and to the Public Health Service. Clinics conducted at the Public Health Service include Well Baby Clinic, family planning and prenatal care, STD, tuberculosis and Hansen's Disease and immunisation clinics. The pharmacy dispenses approximately 82 000 items per year.

The department has modern air conditioned premises and is well located adjacent to the emergency room and outpatient clinics. Drug storage conditions are clean, air conditioned and well lit. There is adequate refrigeration with monitoring of temperatures in the two vaccine refrigerators. Staff currently consists of an Australian graduate pharmacist, 3 Palauan technicians and a storeman. The hospital has been staffed by expatriate pharmacists since 1989.

The scope of the work provided by the department includes dispensing and patient education, provision of drug information to nursing and medical staff and preparation of small packs of drugs, appropriately labelled, for Emergency Room and Public Health patients. Some drugs are also issued to wards once a week on an imprest basis. Imprest drugs include a range of parenteral drugs but only oral acetaminophen due to the perceived risk of pilfering of

oral drugs by hospital staff. Drugs are dispensed in childproof, plastic containers and there is a computerised labelling system which can also provide some information on patient drug histories. There is no laminar flow hood which would enable specialised sterile solutions to be prepared.

## Drug supplies and drug quality

Because of the geographical isolation of Palau, the pharmacist spends a major part of his time ordering drugs or following up lost or slow orders. Much of this work could be done by a competent clerk if one were available, freeing the pharmacist for more professional duties. The ordering system is cumbersome and the pharmacist is not permitted to facilitate the process by using electronic mail ordering. A second pharmacist, which the hospital does employ at times, could have a major impact in the wards, improving prescribing practices including the use of generic names, drug administration procedures, infection control practices and updating drug protocols. A Palauan student is currently studying pharmacy at the Fiji School of Medicine.

Supplies of drugs are adequate and drugs are rarely out of stock due to the vigilance of the pharmacist. The Ministry of Health supplies 80% of all drugs to the Palauan population.<sup>1</sup> Drugs are purchased from reliable sources, mainly the U.S. Department of Health and Human Resources Centre at Perry Point. Palau also participates in a WHO drug quality testing program whereby random testing of selected drugs is carried out by the Therapeutic Goods Administration in Canberra.

Bulk purchasing of pharmaceuticals for Pacific countries is frequently mentioned at seminars and workshops and seems a desirable innovation. However it presents many difficulties in implementation and is unlikely to be of practical use in Palau.

## Ways to improve drug use

There is no continuing education specifically for pharmacy staff, although there is a very active medical continuing education program which pharmacy staff could access

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if they wished to attend. The pharmacy has a good collection of the latest edition drug compendia such as the Physicians Desk Reference (PDR), Drug Facts and Comparisons, Martindale and the Victorian Therapeutic Guidelines. They also have Micromedex® on CD-Rom. There is also a good collection of WHO publications on relevant tropical diseases, essential drugs and management of drug procurement and supply. They could benefit from having on-line access to current journal articles through Medline and independently evaluated comparisons of drugs through the Australian Medicines Handbook CD-Rom. The wards and field dispensaries have PDRs, although, in some cases, they are not current.

Palau has a national drug formulary which covers the major diseases prevalent in Palau. The formulary is current and appropriate for the country. Changes to the formulary are initiated by the pharmacist in consultation with the medical staff. It does not have any dosing recommendations but it is planned to include prescribing information on restricted or expensive antibiotics. There is little pressure to introduce more expensive new drugs. I think this is because the hospital is not on the route of most pharmaceutical company representatives, so medical staff are not pressured or enticed by drug company promotions. It is a pleasure to work in a hospital where selection of drugs is made on a rational basis without drug company pressures.

Unfortunately there is no formally constituted Drug and Therapeutics Committee. Drug use is discussed at regular doctors' meetings but this forum is not fully representative as nursing, finance and administrative staff are not at these meetings. Lack of a formal committee also means that there are no formal records of meetings or reporting and review of medication incidents or adverse drug reactions. A Drug and Therapeutics Committee would also monitor drug expenditure for individual groups of drugs which would be of assistance in developing rational and affordable drug use policies. A Drug Bulletin could also be produced to inform hospital staff of the Committee's decisions.

Palau spends more on drugs (US\$13 per head for the top 20 most expensive drugs in 1995) compared with all other Pacific Island countries except American Samoa. By comparison Fiji spent US\$2.80 per head for top 20 most expensive drugs in 1995.<sup>2</sup> For Palau this means that there is a good range of cardiovascular, respiratory, antidiabetic and antimicrobial drugs available. Gastrointestinal drugs include H<sub>2</sub> antagonists but not proton pump inhibitors. Supplies of drugs to Palauan patients are subsidised, although patient contributions have risen recently. Elderly and incapacitated patients receive additional subsidies but foreign patients pay higher rates.

Drug expenditure in hospitals routinely accounts for between 10-20% of hospital operating costs. Unfortunately as there has been a series of expatriate pharmacists since 1989, no uniform reporting system on drug expenditure or drug use has been developed, so there is little comparative data available on drug prescribing and expenditure. A computerised inventory system with an integrated dispensing model would assist in providing a uniform reporting system. This would be a useful aid for promoting rational prescribing and controlling drug costs.

There are a number of disease management protocols eg myocardial infarction, acute asthma management. There are also drug protocols for the use of some potent drugs but some of these are undated or require revising.

The current system of drug administration in the wards is complex and requires numerous transcriptions of orders by nursing staff. This allows for misinterpretation or omission of doctors orders. There are no appropriate drug trolleys in use.

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Nurses working in field dispensaries have a suitable list of drugs which they

may prescribe and dispense. This includes antihistamines, antimicrobials, analgesics, gastrointestinal drugs, local anaesthetics, oxytocin and skin preparations. They have an Outreach Field Guide containing easy to use dosage and drug information.

## Drug legislation

Drug legislation in Palau has been described as "outdated and complex, being derived from U.S. legislation."<sup>1</sup> Considering the importance of controlling drugs in the general community and recent moves by Palau to become accredited by the International Narcotic Control Board, attention to drug legislation is required. Registration of pharmacists is provided by the Medical Licensure Board. There are no licensed pharmacists working in the private sector.

## Drug donations

The hospital has a formal policy on drug donations, and has adopted the WHO "Guidelines for Drug Donations May 1966". Some donations of drugs such as erythropoietin for renal patients are valuable to the hospital.

## The Australian project

Our principal activity while at the hospital has been the provision of a pharmacology course for the Health Assistant and Practical Nurse Training Program. We were requested to provide 50 hours of lectures, weekly tests, assignments and a final exam. While providing formal lectures, as much as

possible, we used actual or simulated local case histories relevant to Palau to illustrate drug use. Our other activities have included a review of the drug formulary, review of departmental activities and staffing requirements and a trial of a new medication chart and drug administration procedure in the medical ward.

Our time in Palau has been interesting. We feel privileged to have received insight into some aspects of Palau society and have visited many beautiful areas of the Palau islands.

## References

1. Walkowiak H. Republic of Palau. *Paper presented at the seminar Pharmaceuticals in the Pacific. Problems and Prospects.* Fiji, September 1996
2. Dartnell J. Summary of the results of country questionnaires. *Paper presented at the seminar Pharmaceuticals in the Pacific. Problems and Prospects.* Fiji, September 1996.

Imperative drugging - the ordering of medicine in any and every malady - is no longer regarded as the chief function of the doctor.

Sir W. Osler 1849-1919  
in Sir William Osler: Aphorisms