An initiative of NSW Clinical Pharmacologists & Pharmacists
Funded by the NSW Department of Health

DRUG USAGE EVALUATION:

A SELECTION OF PRACTICE OPTIONS

A Resource Document of the NSW Therapeutic Assessment Group Inc.

May 1999

Prepared by NSW Therapeutic Assessment Group Drug Utilisation Evaluation Support Group

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1. INTRODUCTION

The NSW Therapeutic Assessment Group DUE Support Group aims to assist in the development of drug usage evaluation activities in New South Wales through the provision of supportive infrastructure and a collaborative forum for activity.

One of the Support Group's goals has been to identify practice options for staff wishing to develop DUE activities in their hospitals. There is no single correct model of DUE practice. However, there are a number of successful models of practice, which it may be valuable to consider when developing a new DUE program.

2. BACKGROUND

The following information is representative of consensus viewpoints from the literature.

2.1 Operational Requirements

In the administration of DUE programs, operational requirements that need to be satisfied are:

- Clearly defined organisational and reporting structure, and relationships within the institution
- Co-operative stakeholding by important interested parties, particularly medical, pharmacy, and nursing, but with operative autonomy
- Capacity to carry out independent audits
- Personnel skills at an appropriate level
- Hardware, software and library support [(1)]

2.2 Makeup of DUE Team

The ideal structure within an individual facility will depend on the size of the facility, level of interest (are staff resource commitments sustainable), support from quality, medical and pharmacy departments and Drug and Therapeutics committees (DTCs) and available funds. The optimum number of persons employed in a DUE process and the extent to which this is related to the size of the institution is currently not defined [(1)]

The consensus in the literature is that a multidisciplinary team is best able to fulfil requirements for a workable team structure. The team should include:

- Physician with interest in DUE/ clinical pharmacologist

A critical factor for the success of DUE is that prescribers have a sense of ownership and interest in the process. In the USA, the Joint Commission on Accreditation of Health Care Organisations explicitly establishes DUE as a medical staff quality assurance responsibility- ie essentially driven by medical staff [(2).]

- Clinical pharmacist
- Appropriate secretarial support
- Nurse
- A representative from quality improvement and from the Drug Committee are also optimal.

At least one full time appointment is desirable.

Ideally practitioners will be highly skilled, credible, dynamic and experienced, as negotiations with clinical staff are required and the review process can cover potentially sensitive areas.

2.3 Selection criteria for DUE coordinator

McGuire [(3)] has defined key selection criteria for a DUE pharmacist position. These could be easily adapted to fit a coordinator from another health discipline.

1. Current registration as a pharmacist with the Pharmacy Board of the relevant state and a minimum of three years experience in hospital pharmacy practice
2. Initiative and ability to define goals and objectives, assess and organise resources and complete tasks with minimum supervision.
3. Demonstrated experience in literature retrieval, bibliographic database searching, literature evaluation, and report writing.
4. An extensive background in clinical pharmacy and therapeutics
5. Familiarity with personal computer systems; experience in at least two of the following types of software-word processing, spreadsheet or database management
6. Good oral and written communication skills and demonstrated ability to communicate effectively with all levels of hospital staff.

3. PRACTICE OPTIONS AVAILABLE

3.1 Aim

This paper aims to describe some of the practice options available. It is intended to be of use as a background paper for hospital staff making submissions for DUE positions, as well as a general DUE reference for staff new to the concept. It should be used in conjunction with other information resources (see references)

3.2 Methods

To identify existing models of DUE practice in Australian hospitals, a survey was carried out by members of the NSW TAG DUE Support group in August 1997. The survey was sent to 25 hospitals in NSW (including members of the TAG DUE support group) and to twelve interstate hospitals- a total of 37 sites. The response rate was 25/37 (68%).

Additionally, six positions are described in detail, the information having been gathered by informal telephone interview or job description. A literature review of models and mechanisms for provision of DUE positions or services was also undertaken.

3.3 Survey Results

The following questions were asked, with collated responses summarised in the table following each question.

Question 1 Has a DUE been undertaken in your hospital in the last 3 years?

Hospital Size	Yes % responders	No % responders
<200	4	16
200-500	32	8
>500	32	8
Location	Yes %responders	No % responders
Capital city	60	12
Large regional	8	12
Rural centre	Nil	8
Type of hospital	Yes %responders	No % responders
Tertiary referral	56	8
Metropolitan	4	Nil
Regional/base	4	8
Community/district	4	16

Question 2 Who undertook the DUE?

Personnel	No of Hospitals
1. a person employed solely (or predominantly) to provide DUE services	8
2. a person employed to provide clinical services	6
3. a person employed to undertake or assist with research	3
4. a student	Nil
5. other (specify)	
• Staff pharmacist	1
• Several senior pharmacists	1
• Director of Pharmacy	1
• DUE pharmacist appointed for 12 month period	1
• DUE pharmacist (newly appointed)	2

Question 3 If there is a DUE position, does this person report to

Personnel	No of Hospitals
1. Director of Pharmacy	9
2. Director of Clinical Pharmacology	3
3. Drug and Therapeutics Committee	4
4. a medical department/unit	1
5. a surgical department/unit	Nil
6. a research unit	Nil
7. a nursing department/unit	Nil
8. other (specify)	
• Not recorded	5
• Clinical pharmacologist	1

Question 4 How is the position funded?

	% responders
Saving salary	8
Pharmacy staff establishment	20
Drug Budget	4
Area Position	4
Medical service/clinical division	8
QA department	4
No funding	20
No response	32

Question 5 To whom are DUE results reported?

Personnel	No of Hospitals
1. Director of Pharmacy	14
2. Drug and Therapeutics Committee	14
3. Hospital executive	7
4. medical staff	10
5. nursing staff	7
6. pharmacy staff	11
7. other (specify)	
• All of the above at professional meetings and to relevant committees	1
• Victorian DUE group	1
• Division involved	1
• Clinical unit + quality improvement, QA, QI groups	1
• Patient care improvement committee	1

Question 6 Who decides when a DUE should be undertaken?

	No of hospitals
1. Individual pharmacy practitioners	12
2. DUE pharmacist	9
3. Director of Pharmacy	11
4. Drug and Therapeutics Committee	14
5. Medical staff	4
6. Nursing staff	Nil
7. other (specify)	
• Research assistant	1
• Senior pharmacist in consultation	1
• Clinical pharmacologist	2

Question 7 Approximately how much time per week would be allocated to providing DUE services in your hospital?

Time Span	No of Hospitals
1. no time at all	2
2. up to 8 hours	2
3. up to 3 days	4
4. up to 5 days	5
5. other	
• To 8 hours until now, to 5 days from now on	2
• Intensive activity of DUE, up to 2-3 hours /week then revert to normal work	1
• It is part of clinical role	1

Question 8 What are the strengths and weaknesses of your model of DUE?

Model	Strengths	Weaknesses
Dedicated DUE position	• Fully supportive Drug and Therapeutics committee • Cooperation between clinical pharmacology and pharmacy • Demonstrates expertise within pharmacy and strengthens profile of dept. • Fosters collaboration with medical & surgical units /staff and quality unit of hospital • Strong DTC support • Calling the service a QUM unit seems to be a positive way of enlisting interest in the services. • Independence of daily work; not captured by any one dept or interest group • Time is available to do a number of projects; involvement of medical, nursing and pharmacy staff • Funding by beneficiaries maintains impetus for the service. • Since DUE program is coordinated and conducted by Clinical Pharmacology/DTC we have good links and credibility with medical staff and DTC support. Maintenance of the program is not dependent on demonstrating savings and therefore the process can be QUM not cost containment	• Many potential projects are identified but difficulty in addressing all issues. More efficient use of resources is important. • Reliance on inadequate information systems/technology. Should have greater involvement of clinical pharmacists doing unit based DUEs at ward level.(time is the resource problem here). • Would be non-functional without the support provided by medical admin, DTC, clinicians etc • Need to actively involve all clinical pharmacists in DUE • lengthy but rational process to establish priorities • Insufficient time • Lack of ownership of process by senior medical staff. • Lack of power to implement changes • No substantial weaknesses • Savings difficult to produce from some quality programs; problem when funding is dependent on savings. • At the control of clinical divisions • Ward pharmacists are not strongly enough involved with the program
Model	Strengths	Weaknesses
Dedicated DUE cont[d]		• Since outpatient drug

		dispensing is mostly via PBS/community there is much less opportunity for review in this area of prescribing
Clinical pharmacist/generalist	• Encourages a range of staff to develop these skills • Nil • Used as a therapeutic tool for promoting best practice • Established network in place	• Lack of dedicated, funded position • Require a DUE pharmacist • No recommendations available to conduct proper DUE survey- conducted ad-hoc as time permits; problems with data collection • Insufficient time to do a proper literature search, and to coordinate clinicians for ongoing review
Research		• None
Mix clinical and research	• Fits with DTC restrictions and protocols • Collaborative efforts make DUE studies more reputable, particularly with Clinical Pharmacology involvement	• Lack of formal structure and process

4. SOME EFFECTIVE MODELS OF PRACTICE

A number of DUE positions have been successfully maintained in Australasian hospitals. Six such positions which have been demonstrated to be effective models of practice are described here. The information was gathered by telephone interview or from a job description furnished by the then incumbents of the position.
The positions are based at the following hospitals :
St Vincents Hospital, Sydney (SV), Royal North Shore Hospital Sydney(RN), Royal Melbourne Hospital (RM), Austin and Repatriation Hospital, Melbourne (AR) Christchurch Hospital, New Zealand. (CH) and Royal Perth (RP).

Hospital	Reports to/Location	Funded By	Identification of issues
SV	Director of Pharmacy Drug Committee; Located in Pharmacy Job share position	Initially by demonstrated drug expenditure savings	New drugs, Clinical pharmacists, literature, conferences, Existing networks
RN	Director of Pharmacy; Located in Pharmacy Member of Drug Committee	Initially for 2 years to demonstrate savings over that period; continues to be funded through savings achieved by the program	DUE pharmacist, Director of Pharmacy or Deputy; clinical pharmacists, Drug Committee
RM	Pharmaceutical Advisory Committee (PAC); is the Senior Research Pharmacist in Clinical Pharmacology	Funded by Clinical Pharmacology- no conditions such as demonstrated savings in expenditure	PAC frequently identifies areas for evaluation
AR	Director of Pharmacy and Drug Utilisation; Located in pharmacy department	Began in 1988 as cost saving exercise; continuation depends on achieving $100,000 savings annually	Clinical pharmacists; list of top expenditure items; Director and Deputy Director Pharmacy
CH	Director of Clinical Pharmacology (part of Clinical Pharmacology) Member of Drug Committee; Secretary of Preferred Medicines List Committee	Not specified	DUE pharmacist provides regular feedback on costly and commonly used drugs; projects undertaken for drugs with high potential for inappropriate use or ADRs, high cost or frequent use
RP	Drug Committee	QA Department	Drug Committee or Director of Drug Audit program.

Hospital	Educational Strategies	DUE as QI tool	Data Collection
SV	Pilot interventions involving medical officers; hospital formulary used as a tool for prescribing guidelines, Bulletins, memos to approved prescribers	All activities reported as QI activities	Pharmacy students
RN	Flyers and posters may be used	DUE pharmacist is member of Pharmacy QI committee	Technical staff
RM		All activities registered with Quality Project Register.	Trainees, occasionally medical students
AR	Written guidelines, reviews distributed, Bulletin; memos; Grand Rounds	Reported to QA pharmacist	DUE pharmacists themselves; also ward or clinical pharmacists; routine collection of drug usage information

5. CONCLUSION

It is clear that different models for supporting DUE activities in hospitals can be successful, and that these models do not necessarily require all of the features identified in the literature to be successful. However a critical feature for success appears to be the support of clinical pharmacologists (where they exist) and/or the support of the DTC for regular DUE activity. Emphasis on peer review and quality improvement also appears to be an indicator of success.

Members of the NSWTAG DUE Support Group are willing to provide further specific information to assist hospital personnel in initiating a DUE program in their workplace. Readers are strongly encouraged to utilise resources such as the SHPA DUE Starter Kit before embarking on a DUE program.

REFERENCES

1. Development of Drug Usage Evaluation in Hospital Practice in Australia and New Zealand. Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists(ASCEPT) 1998.
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3. McGuire TM, Petrie GM. A hitchhiker's guide to establishing a drug utilisation evaluation program. Aust J Hosp Pharm 1995;25(4): 315-23.