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# Goodbye TAIS and thanks for all the information!

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## Summary

**The Therapeutic Advice and Information Service was funded by the National Prescribing Service to provide a national drug information service for health professionals working in the community. For ten years the service achieved high levels of client satisfaction, and reached its contracted target of 6000 enquiries about medicines per year, however the service ceased on 30 June 2010.**

Key words: drug information, National Prescribing Service.

*(Aust Prescr 2010;33:147–9)*

## Introduction

The National Medicines Policy states that

... consumers and health practitioners should have timely access to accurate information and education about medicines and their use.<sup>1</sup>

The National Prescribing Service (NPS) launched the Therapeutic Advice and Information Service (TAIS) for health professionals in June 2000. This was a telephone service with an email and online enquiry facility, which aimed to give health professionals working in the community access to therapeutic information and advice.

The nationwide service was provided by a consortium of six hospital-based drug information centres under a single contract with the NPS. These centres offered specialised resources and access to clinical consultants. Their different locations provided extended coverage across Australia's time zones. Service provision automatically switched between participating centres for two-hour blocks across five states. The model gave callers nationwide access to a single pharmacist operator, Monday to Friday between 9 am and 7 pm AEST\*, via a 1300 number and online.

\* Australian Eastern Standard Time

## TAIS activity

TAIS could handle complex clinical questions through access to specialist drug information expertise and additional resources not readily available outside of hospitals. The service provided timely and tailored responses to questions such as those about comparisons within and across therapeutic classes, non-approved indications, complementary medicines, drugs marketed overseas, the likely outcomes of polypharmacy, and prescribing in pregnancy and children.

TAIS handled over 56 000 enquiries about medicines. Most were from community pharmacists and general practitioners (see Table 1). Approximately a third of enquiries were from practitioners in rural or remote parts of Australia. More than 85% of enquiries were about an individual patient. The average enquiry was 31 minutes (range 15 minutes to 16 hours). This included phone time, literature review, collation, data entry and provision of a response.

Calls most frequently involved drugs used in psychiatry (15%), cardiovascular medicine (11%), infection (10%) and neurology (10%). Complementary medicines accounted for 8% of calls. These enquiries were commonly related to medication safety issues, such as drug interactions (19%), adverse drug reactions (18%), dosing or administration (11%), and pregnancy or lactation (8%). Enquiries about optimising therapeutic strategies

*Table 1*  
**Callers seeking therapeutic advice, June 2000–June 2009**

Community pharmacists	38%
General practitioners	33%
Specialists	11%
Consultant pharmacists	5%
NPS facilitators and staff	4%
Hospital pharmacists	4%
Nurses	3%
Allied health professionals	2%

Table 2

**Typical enquiries for therapeutic advice**

Adverse reactions	<ul style="list-style-type: none"> <li>■ Which antidepressant causes least weight gain? (GP)</li> <li>■ Which selective serotonin reuptake inhibitor or serotonin noradrenaline reuptake inhibitor causes the least amount of sexual dysfunction? (Specialist)</li> </ul>
Interactions	<ul style="list-style-type: none"> <li>■ How clinically significant is the interaction between clopidogrel and proton pump inhibitors? Should all patients avoid this combination? (Hospital pharmacist)</li> <li>■ What is the interaction between methotrexate and amoxicillin (flagged in dispensing software)? (Pharmacist)</li> </ul>
Optimising therapeutic strategy	<ul style="list-style-type: none"> <li>■ Is a wash-out period required when switching from St John's wort to venlafaxine, if the patient has only been on St John's wort for five days? (GP)</li> <li>■ Which antimalarial(s) are recommended as prophylaxis in Papua New Guinea? Patient is trekking Kokoda track for 15 days (GP)</li> </ul>
Pregnancy/lactation	<ul style="list-style-type: none"> <li>■ Patient is six weeks pregnant taking venlafaxine, valaciclovir, sumatriptan and temazepam. Should she be screened for malformations? (GP)</li> <li>■ Could desvenlafaxine reduce fertility if taken by the male partner? (Specialist)</li> <li>■ Is an extract of marshmallow, garlic and echinacea safe when breastfeeding a six-week-old infant? (Nurse)</li> </ul>
Complementary and alternative medicines	<ul style="list-style-type: none"> <li>■ What dose of melatonin is recommended to treat insomnia in a visually impaired three year old? (Specialist)</li> <li>■ Is glucosamine safe for a patient with diabetes? (NPS Facilitator)</li> <li>■ Can 'Cordyceps', a Chinese herb, be used to prevent colds? (GP)</li> </ul>
Illicit drugs	<ul style="list-style-type: none"> <li>■ Patient uses ecstasy and cocaine. What is the safety if citalopram is also used? (GP)</li> </ul>
Foreign trade names	<ul style="list-style-type: none"> <li>■ What is the equivalent to thiamazole (Chinese female taking 10 mg daily for hyperthyroidism)? (GP)</li> <li>■ What is the equivalent brand of Belara oral contraceptive pill (South American patient)? (GP)</li> </ul>
New drugs	<ul style="list-style-type: none"> <li>■ Can H1N1 vaccine be given if there is history of a severe reaction to tetanus vaccine? (Nurse)</li> <li>■ Is H1N1 vaccine live? Patient takes methotrexate (Specialist)</li> </ul>

constituted 16% of calls. Table 2 shows examples of typical questions answered by TAIS.

TAIS adopted a quality management approach and adhered to professional<sup>2</sup> and contact centre standards.<sup>3</sup> Every two months a peer review committee audited a random 2% sample of enquiries. Between 2004 and 2009, 315 callers, of 633 surveyed, gave feedback. Of these, 97% reported that 'overall the information provided met my needs' and 40% stated a change in therapy had occurred as a consequence of advice from TAIS.

**TAIS closure**

The service could answer approximately 6000 calls annually, and operated at maximum capacity for a number of years. Over the life of the service, the funding provided amounted to a cost per call of \$52, however this did not cover all costs of service provision. TAIS was able to capitalise on shared use of existing infrastructure, training and resources at individual sites. Although the service was of high quality and valued by its users, the NPS concluded that the model was no longer sustainable, and discontinued funding on 30 June 2010.

While there will be no telephone service to replace TAIS, the NPS has provided a 'Guide to medicines information resources' for health professionals. This is available on the NPS website at [www.nps.org.au/health\\_professionals/guide\\_to\\_medicines\\_information\\_resources](http://www.nps.org.au/health_professionals/guide_to_medicines_information_resources).

**Lessons learned**

For a decade, TAIS supported health professionals across Australia by providing timely access to quality therapeutic information and advice to support the quality use of medicines. Over this time, delivery of healthcare in the primary-care sector has become more demanding, with patients of greater complexity with multiple morbidities and medications. This trend is likely to continue and any future therapeutic advice and information service should be designed to be able to meet these changing complex needs. If a national drug information service is available in the future, it must be part of a coordinated effort to support the quality use of medicines in this dynamic environment.

Access to a drug information pharmacist, with expertise in retrieval and interpretation of therapeutic evidence, presents an opportunity to assist health professionals make timely and appropriate decisions about medicines for the individual patient and avoid harm from medicines. While a national service can provide access to this expertise for health professionals working outside hospitals, and enhance collegial relationships between health professionals, it requires significant resources to establish and maintain. A key challenge is to develop a service model that provides for long-term viability and achieves maximum value for the investment required.

Achieving the cost-effective delivery of therapeutic information and advice requires careful consideration of the processes and systems used for responding to individual enquiries. The relative merits of a multi-site versus single-site service model were considered. The TAIS multi-site experience demonstrated that the advantages of sharing workload, resources, leave cover, and providing extended service hours across time zones exceeded any duplication disadvantages at a comparable cost. While documentation of enquiries and responses is important for quality assurance and evaluation, it is time-consuming and therefore costly. Sophisticated technological solutions are likely to improve efficiency, but must be sufficiently flexible to adapt to changing needs. The service model must also have capacity to allow for fluctuations in demand.

Systems should be in place to allow timely sharing and analysis of enquiry and response data. This can inform other quality use of medicines activities by identifying medicines information needs and emerging areas of controversy or uncertainty.

While TAIS did use a database to record and report questions and answers, its construction did not allow for straightforward analysis on demand. Any future services should consider potential uses for information captured when designing or adapting a database. Answers to frequently asked questions should be made available to health professionals – for example, as decision support in clinical software – as a means of managing enquiry demand, allowing the service to focus on responding to complex or unusual requests. Information should also be shared more broadly between centres to improve efficiency and provide for a more consistent national approach.

Measuring the value and utility of a service for clinicians, and its impact on patient outcomes, may be difficult and expensive, yet it is important for ongoing service improvement and, possibly, for funding. Evaluation methods need to be planned during service model development, adequately resourced and focused on the service's aims to improve health outcomes.

## Conclusion

TAIS expertly responded to health professional enquiries over the past 10 years and provided many lessons for any future national therapeutic advice and information service.

A service such as TAIS presents an opportunity to support health professionals to provide high quality information and advice to individual patients and to inform other quality use of medicines activities through collection and analysis of enquiry data. However, any such service must be carefully designed and evaluated to ensure the most efficient use of funding to improve patient outcomes.

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*Treasure McGuire was the inaugural TAIS Service Manager from 2000 to 2004. Marea Patounas was TAIS Service Manager from 2005 to 2010.*