



National Prescribing Service Limited

Evaluation Report No. 3

July 2001

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1. Executive summary

This is the third evaluation report of the National Prescribing Service (NPS). This report includes summaries of information from:

- NPS stakeholder interviews (November 1999);
- GP telephone surveys (January 2000);
- Two nation-wide paper-based GP surveys conducted in conjunction with the Department of General Practice, University of Adelaide (November 1999 and October 2000);
- Division operation analysis (October 2000);
- Activity reports provided to the NPS by divisional facilitators (June 2001);
- Data maintained by NPS on the distribution of written material (June 2001); and
- The second service report on the NPS Therapeutic Advice and Information Service (TAIS) (June 2001).

The ability of NPS interventions to change prescribing behaviour was perceived as good to excellent by the majority of stakeholders. These stakeholders included: NPS staff; board members; working group chairs; member organisations; government representatives; facilitators; and divisions of general practice. Case study meetings and practice visits were perceived to have the greatest potential.

General Practitioners (GPs) are much more aware of NPS strategies and products. One in 20 GPs reported awareness of the NPS in March 2000, while this had risen to nearly one in two by December 2000. Interestingly, a small survey of GPs conducted in January 2000 found many perceived the organisation to be a government body (62%).

Just over half the GPs surveyed believed the completeness and trustworthiness of NPS prescribing information to be good or very good. Slightly less believed the completeness and trustworthiness of prescribing feedback to be of similar standards.

Over 60% of GPs reported Practice Incentive Program (PIP) payments to be important in influencing their decision to participate in NPS activities, however, PIP payments for NPS activities were considered uncompetitive in comparison to other programs available.

Practice visits followed by case studies were perceived by division representatives to be the most effective NPS activities. In comparison, CME activities, satellite broadcasts and clinical audits were believed to be the least effective.

The number of GPs who reported reading the NPS *Prescribing Practice Review* (PPR) has increased. Just over 30% reported reading this in March 2000 compared to close to 50% in December 2000. *Australian Doctor* remains a viable access point for NPS messages, with 89% of GPs reporting they read this publication.

The Therapeutic Advice and Information Service (TAIS), operated by a 6-member consortium in Melbourne, Adelaide, Brisbane (2), Perth and Newcastle, received 4,765 inquiries in its first 13 months of operation. Over two thirds of calls to this service were from medical practitioners with the remaining primarily from community based pharmacists. The majority of calls to TAIS were generated through promotion via NPS facilitators or NPS literature.

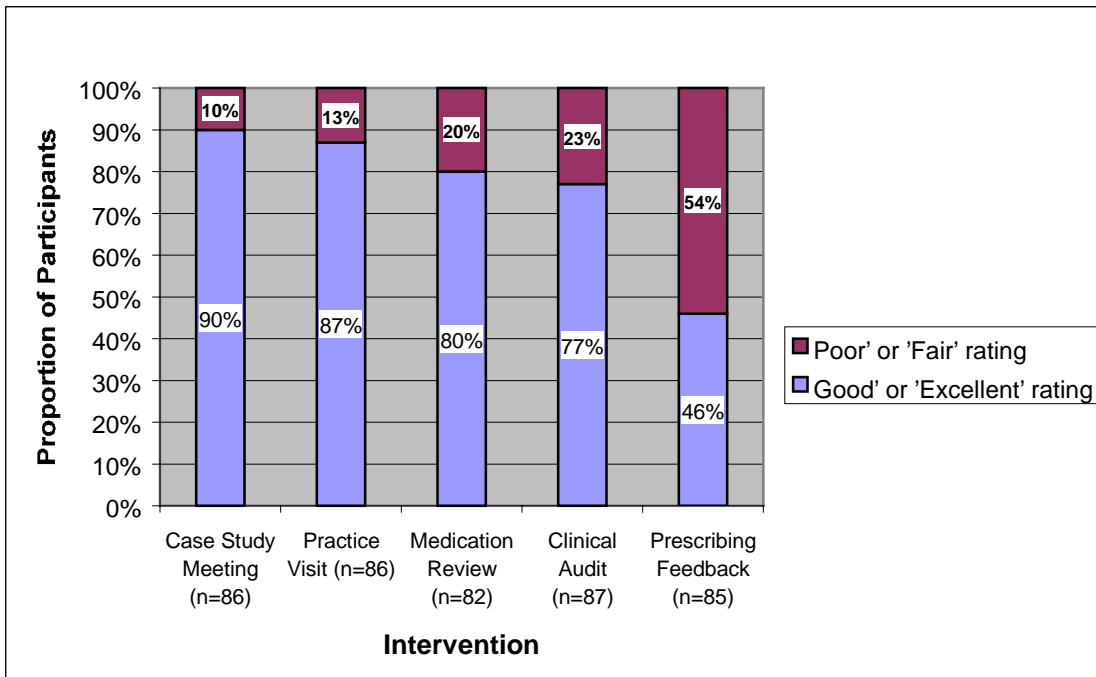
The focus for the evaluation team, over the next 1 to 2 years, is to:

- critically review the program plan and evaluation plan prepared at the start of NPS;
- develop a set of 'core indicators' for ongoing evaluation of the overall NPS goals and activities;
- develop and apply methods for examining the economic consequences of NPS with increasing sophistication;
- investigate alternative methods for examining consumer/community views;
- further explore the boundaries and potential and weaknesses of computerised prescribing databases as a source of information for the evaluation;
- develop and apply a continuing evolution of the 'case study' methodology at a Divisional level;
- complete a more thorough examination of the system and environmental variables that may influence prescribing; and
- further examine the impact of changes to medical and nursing education curricular on prescribing behaviour.

2. Stakeholder perceptions regarding the potential success of NPS interventions in changing prescribing behaviour

Between November 1999 and January 2000, 96 telephone interviews were conducted with NPS stakeholders including individuals representing: staff; board members; working group chairs; member organisations; Commonwealth government; NPS facilitators and divisions of general practice (both divisions with contracts with the NPS and those without contracts). Figure 1 shows the results of stakeholder perceptions regarding the ability of NPS interventions to change prescribing.

Figure 1: Perceived potential success of interventions in changing prescribing



3. Awareness of NPS strategies and products

In a NPS telephone survey conducted in January 2000, 18 of the 21 GPs interviewed were aware of the NPS through NPS material. Thirteen were aware of the *Australian Prescriber*, 13 the PPR and 6 mentioned the prescribing feedback. Only 2 GPs were aware of the NPS through divisional activities and 2 mentioned academic detailing. Four were aware of the clinical audits and case studies. Thirteen of the 21 GPs perceived that the NPS was a Government organisation.

In conjunction with the Department of General Practice, University of Adelaide the NPS has also conducted two nation-wide paper-based GP surveys (March 2000 and December 2000), which assessed GP awareness of the NPS and participation in NPS activities offered. In the second survey (n=941), 41.5% of participants were aware of NPS activities in their division. This was a significant increase from the first survey (n=1310) in which only 18.5% were aware of NPS activities in their division.

When the first survey was undertaken (March 2000), 37 divisions throughout Australia, as well as DATIS and QRMSA had contracts with the NPS. At the end of the second survey (December 2000) 83 divisions had contracts. In the second survey 27% of the total sample reported participating in NPS activities- again, a significant increase since the first survey in which there was a reported participation level of 7.2%.

Participation varied depending on the activity. In the second survey, the following are some of the activities the GPs recalled participating in:

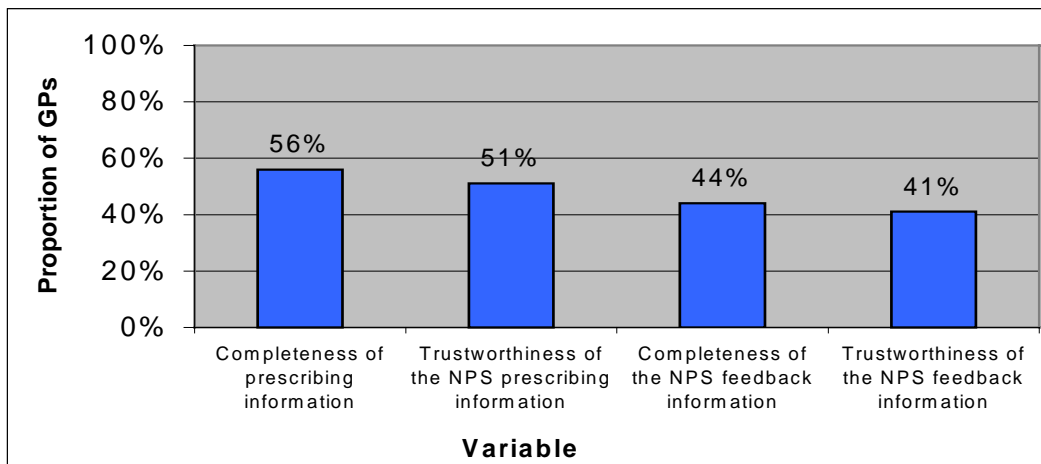
- 27.7% participated in clinical audits
- 10.8% in Practice visits
- 7.4% in Talks/lectures
- 6.5% in Case studies
- 3.1% in CME sessions

GPs also recalled participation in specific NPS therapeutic topics including:

- Antibiotics (15.1%)
- Hypertension (13.4%)
- Depression (2.5%)

In the second of the GP surveys, respondents were asked to rate the 'completeness' and 'trustworthiness' of NPS prescribing information and feedback, the results of which are displayed in Figure 2. Refer to Appendix I for the question as it was asked in the survey.

Figure 2: Proportion of GPs rating completeness and trustworthiness variables as 'good' or 'very good' (n=941)



In the second GP survey, 34% of respondents reported claiming PIP for NPS activities. Fifteen percent of the total sample rated PIP as 'very important' in influencing their decision to participate in NPS activities, 27% rated it as 'moderately important', 22% as a 'little important' and 36% 'not important'.

There were also a number of issues regarding the PIP scheme raised in the Division Operation Analysis conducted by the NPS in October - November 2000. The main issues were:

- Payment to the practice rather than the individual GP was considered restrictive and unfair to those GPs who work in a large practice in which they are the only, or one of a minority of GPs, who would like to participate and benefit from the initiative.

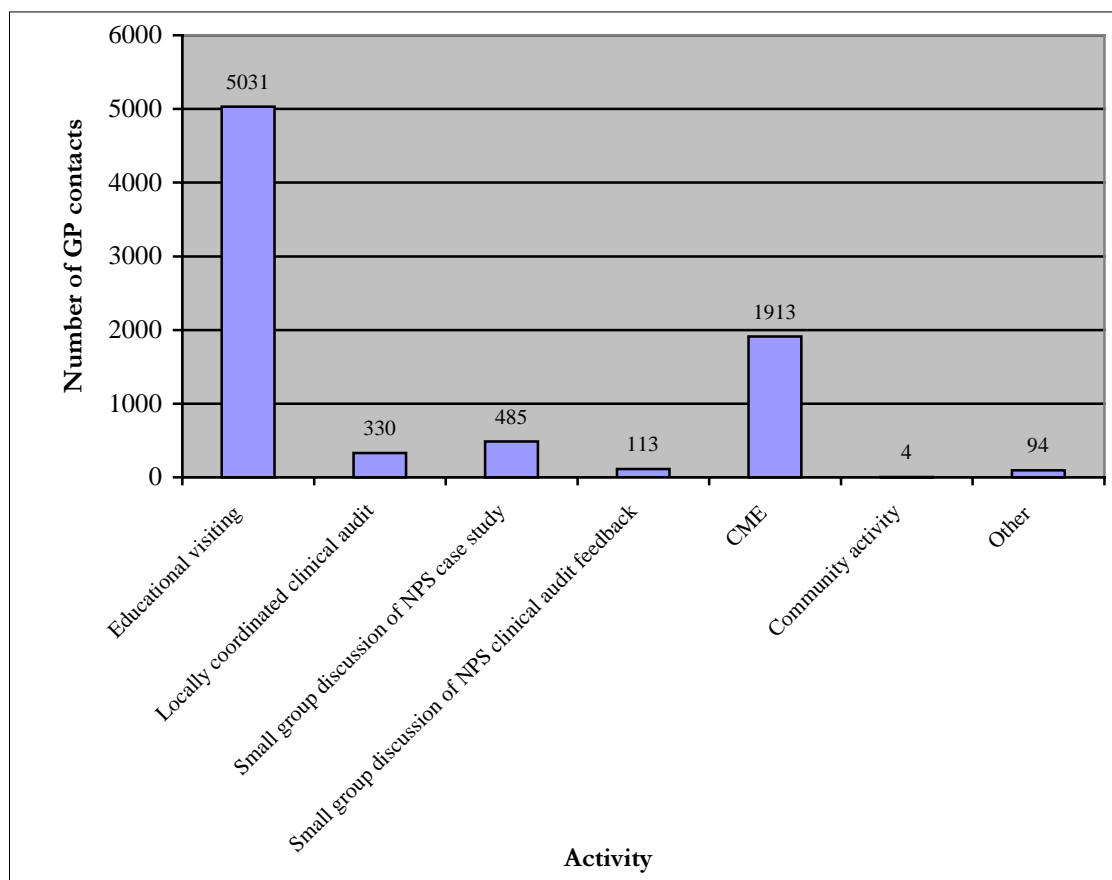
- A lack of clarity in the 'rules and regulations' of PIP that has left both GPs and division staff confused and frustrated at the scheme.
- PIP payments for participation in NPS initiatives are substantially less than those offered for immunisation and IT and that has made it relatively uncompetitive.

4. Strategy and activity specific evaluation

4.1 Comparison of activities

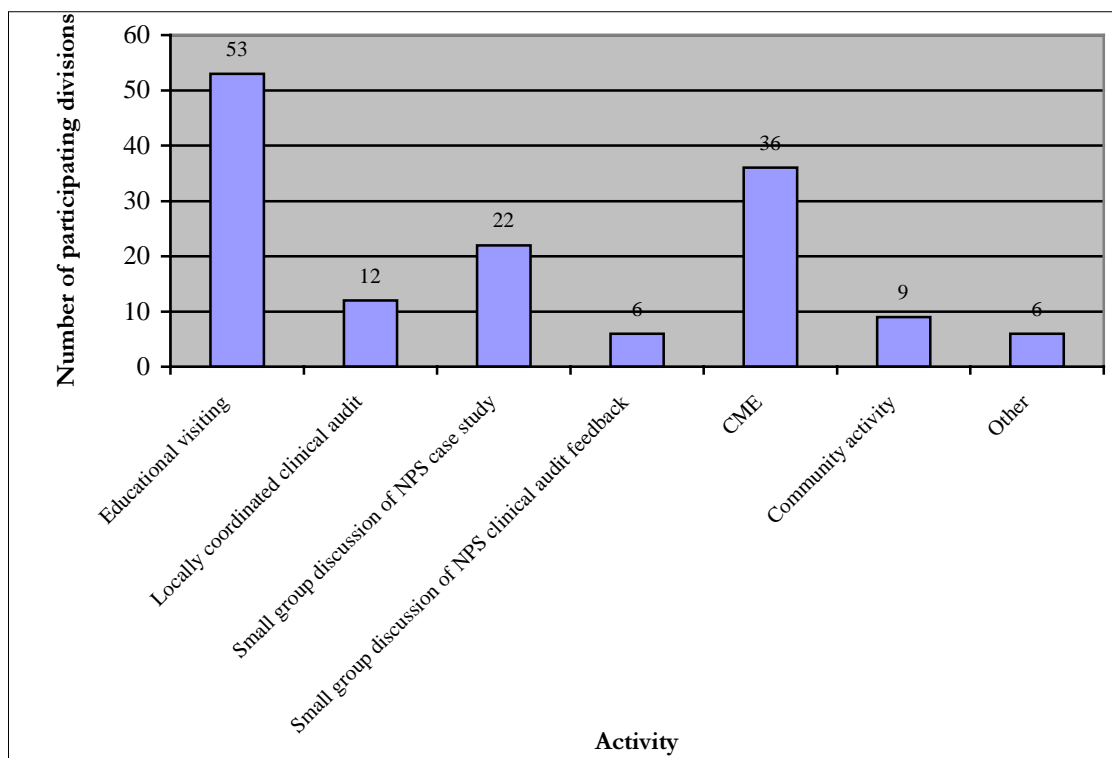
The data in Figures 3 and 4 are derived from activity reports that NPS facilitators submit after the completion of NPS activities in their division. Data included in the current report are from information provided up to the end of June 2001. Figure 3 represents the number of GP contacts made throughout Australia for each activity type and Figure 4 the number of divisions who have conducted this activity.

Figure 3: GP Participation in local NPS activities to June 30 2001*



* Data from satellite broadcasts or promotions (both local and national) are not included in these counts (thus, 73/326 or 22% of activity reports are excluded).

Figure 4: Division participation in local NPS activities to June 30 2001*



* Data from satellite broadcasts or promotions (both local and national) are not included in these counts (thus, 73/326 or 22% of activity reports are excluded); DATIS data contributes as one division, while QRMSA data counts as 5 divisions.

During October and November 2000 a comprehensive analysis of division operations was conducted with 6 divisions of general practice who had contracts with the NPS. This analysis was undertaken to explore how the implementation of local-level programs was working 'on the ground' within Divisions of general practice. The aims of this analysis were to: examine different models being used to deliver the 'NPS program'; identify the strengths and weaknesses of these models; and identify the factors which facilitate or act as barriers to implementation. In total, 34 interviews were conducted with average duration of 1.25 hours.

Practice visits were most frequently nominated as being the most successful NPS activity implemented within the participating divisions, followed by case study discussions. Practice visits were nominated as successful because of: high participation rates; personal interaction between facilitator and GP; and perceived cost-effectiveness.

In comparison, CME activities were commonly mentioned as being the least successful of the NPS activities despite often satisfactory participation rates. The primary rationale was that they are resource intensive and there is little evidence of their effectiveness as a behaviour-modification strategy. Other NPS strategies reported as being relatively unsuccessful included satellite broadcasts (due to their inconvenient time and poor event organisation) and clinical audits (due to delays in receiving feedback and the time required of GPs to complete the audits).

4.2 Medication review

In the second NPS GP survey conducted in October - December 2000, 68.8% of GPs reported conducting a 'total medication review' on one or more patient(s) in the previous month, a statistically significant, but modest, increase on the previous survey (November 1999 - March 2000) in which 63.7% reported conducting them. Of the 68.8% who reported conducting reviews in the second survey, 50% had reviewed between 1-10 patients, 15% had reviewed 11-50 and 4% over 51 patients. 15% of GPs also reported that a pharmacist had conducted medication review(s) for their patients, (but the number of persons receiving reviews via pharmacists was not collected).

In responding to the first GP survey (November 1999 - March 2000), many GPs commented that they resented pharmacist intervention in their prescribing, particularly in the area of nursing home medication reviews and did not see a significant role for pharmacists in their daily practice.

Two NPS consumer surveys have been conducted to-date (1999 & 2000), which have studied rates of medication review in the community. In the first survey (n=1614) 7% of respondents reported having ever had all their medicines checked by a doctor or pharmacist. A further 2% reported having their medications 'partially' checked. Similar results were obtained in the second survey (n=1603) in which 6% reported having ever had all of their medicines checked and a further 2% having had a 'partial' check.

4.3 NPS written material

Table 1 shows the distribution of NPS materials to GPs nationally.

Table 1: Material distribution

Activity	Target Group	Distribution
PPR with feedback	GPs/OMPs	15862 GPs, 2011 OMPs
NPS News*	GPs	18199
NPS News*	Pharmacists	11704

* The NPS news is distributed through the Australian Prescriber journal to 58,881 health professionals. These include the above-mentioned GPs and pharmacists as well as dentists, scientists, dieticians, students and nurses.

In the second NPS GP survey conducted by the Department of General Practice, University of Adelaide in October - December 2000, 45% of respondents reported reading the NPS *PPR*, a significant increase from the first survey in which 34.1% reported reading it.

There was also an increase in the proportion of GPs who reported reading the NPS News from 38% to 40% although this was not a statistically significant increase.

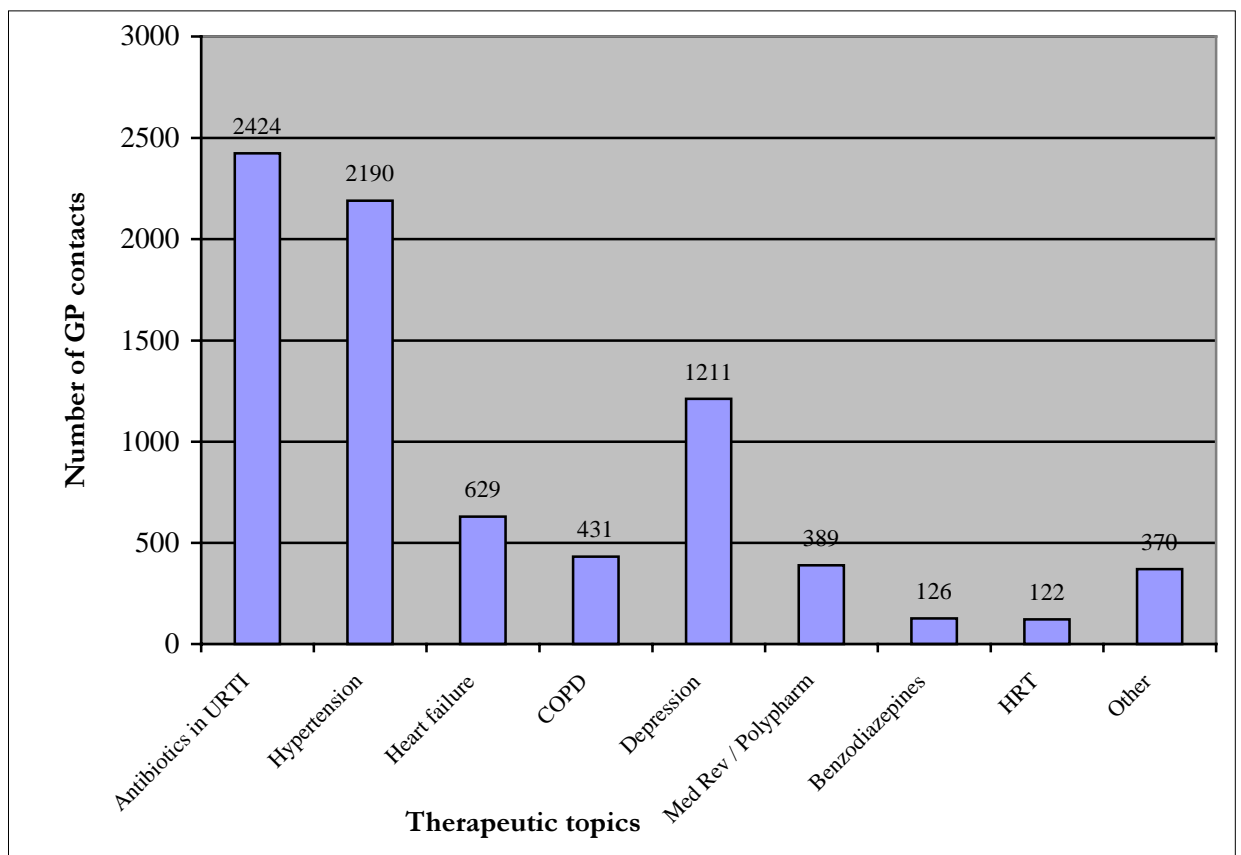
The most commonly read publication in both surveys was the trade magazine Australian Doctor- reported consistently by 89% of GPs. Therefore, it may be a possible access point for NPS to make contact with GPs.

5. Topic specific evaluation

5.1 Comparison of topics

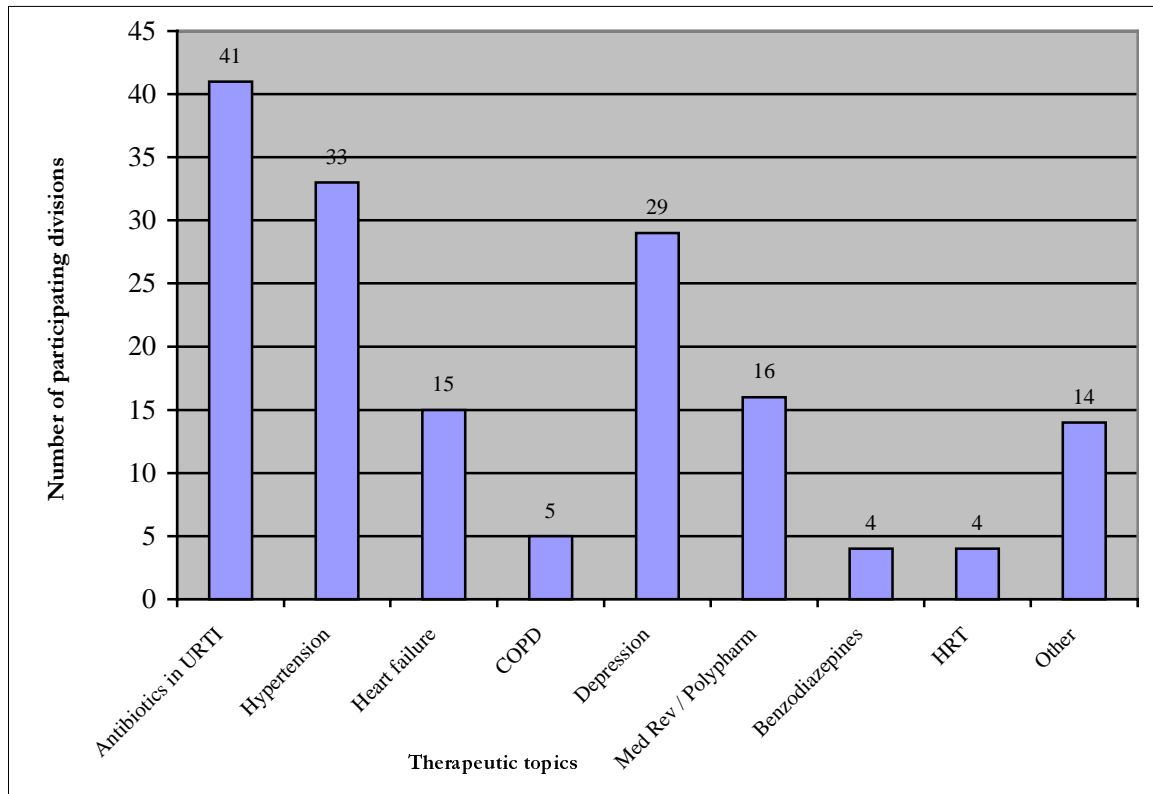
The data in Figures 5 and 6 are derived from activity reports that NPS facilitators submit after the completion of NPS activities in their division. Figure 5 shows the number of GP contacts made throughout Australia for each specific topic and Figure 6 shows the number of divisions who have conducted activities on this topic.

Figure 5: Local GP participation in specific therapeutic topics to June 30 2001*



* Data from satellite broadcasts or promotions (both local and national) are not included in these counts (thus, 73/326 or 22% of activity reports are excluded); Benzodiazepines include 5 sleeping disorder reports plus some other areas.

Figure 6: Division participation in specific therapeutic topics to June 30 2001*



* Data from satellite broadcasts or promotions (both local and national) are not included in these counts (thus, 73/326 or 22% of activity reports are excluded); Benzodiazepines include 5 sleeping disorder reports plus some other areas; DATIS data contributes as one division, while QRMSA data counts as 5 divisions.

5.2 Hypertension

In the second NPS GP survey (October - December 2000), GPs were asked to indicate the correct treatment options to reduce mortality in patients with uncomplicated hypertension. Although 47% and 69% of GPs chose thiazide diuretics and beta-blockers respectively, only 12% chose both - the most correct answer (National Heart Foundation of Australia, 1999). A total of 74.1% of GPs selected ACE Inhibitors and 38.5% calcium channel blockers. However, neither has been shown to reduce mortality in patients with uncomplicated hypertension.

These results were not significantly different from those obtained in the previous GP survey (November 1999 - March 2000) apart from a significant decrease in respondents who selected beta-blockers and thiazide diuretics- previously, 57.5% and 78% respectively. The percentage of those who correctly chose both didn't change significantly.

5.3 Acute sinusitis

In the second NPS GP survey (October - December 2000), 44% of respondents chose amoxicillin as first line therapy for acute sinusitis, 19% chose amoxicillin/clavulanic acid and 15% roxithromycin. A further 5% chose not to prescribe an antibiotic. Amoxicillin remains the drug of choice for empiric therapy in acute sinusitis when an antibiotic is required, because the common causative bacteria are usually sensitive. However, the guidelines suggest most cases are viral and often require no antibiotic (Therapeutic Guidelines, Antibiotic: Version 11, 2000).

5.4 NSAIDs

In the first NPS GP survey (November 1999 - March 2000), 72.1% of GPs correctly identified at least one of the two NSAIDs that are known to have the lowest risk of serious GI bleeding (ibuprofen and diclofenac) (Henry et al., 1996). A total of 11.4% chose 'other NSAIDs'. Of these, 63.8% chose celecoxib.

5.5 COPD

In the first NPS GP survey (November 1999 - March 2000), respondents were asked to identify management options to improve chronic symptoms in patients with COPD. Seven options were available for GPs to choose. Only 1.9% of GPs correctly identified all 5 of the proven management options.

The majority of GPs knew smoking cessation (93.4%) and inhaled anticholinergic agents (78.2%) were proven management options. A smaller proportion knew that regular corticosteroid inhaler use (45.5%), intermittent oral corticosteroids (27.1%) and beta agonists (44.6%) were also proven agents.

Researchers involved in this study suggested that this poor result might be a reflection of uncertainties surrounding the term COPD and/or current ambiguities about the use of corticosteroids.

6. Evaluation of TAIS

The following information is based on the Second Service Report of the NPS' Therapeutic Advice and Information Service (TAIS) (1 June 2000 – 30 June 2001) - Treasure McGuire.

TAIS is a national drug and therapeutic information service primarily targeted at community-based health professionals. A 6-member consortium (the Australian Consortium of Drug Information Services) operates the service, on behalf of the NPS. The six sites are established Drug Information Centres based in Melbourne, Adelaide, Brisbane (2), Perth and Newcastle.

Inquiries may be lodged via a dedicated 1300 telephone line between 9am-7pm Monday to Friday, or alternatively, via email or fax which are available 24 hours a day, 7 days a week.

A total of 4,765 enquiries were received by TAIS in its first 13 months of operation (1 June 2000 – 29 June 2001). The distribution of these calls over the first 13 months is illustrated in Figures 7 and 8. The positive impact of a campaign in October 2000 to launch the service is evident.

Figure 7: Frequency of enquiries to TAIS (June – December 2000)

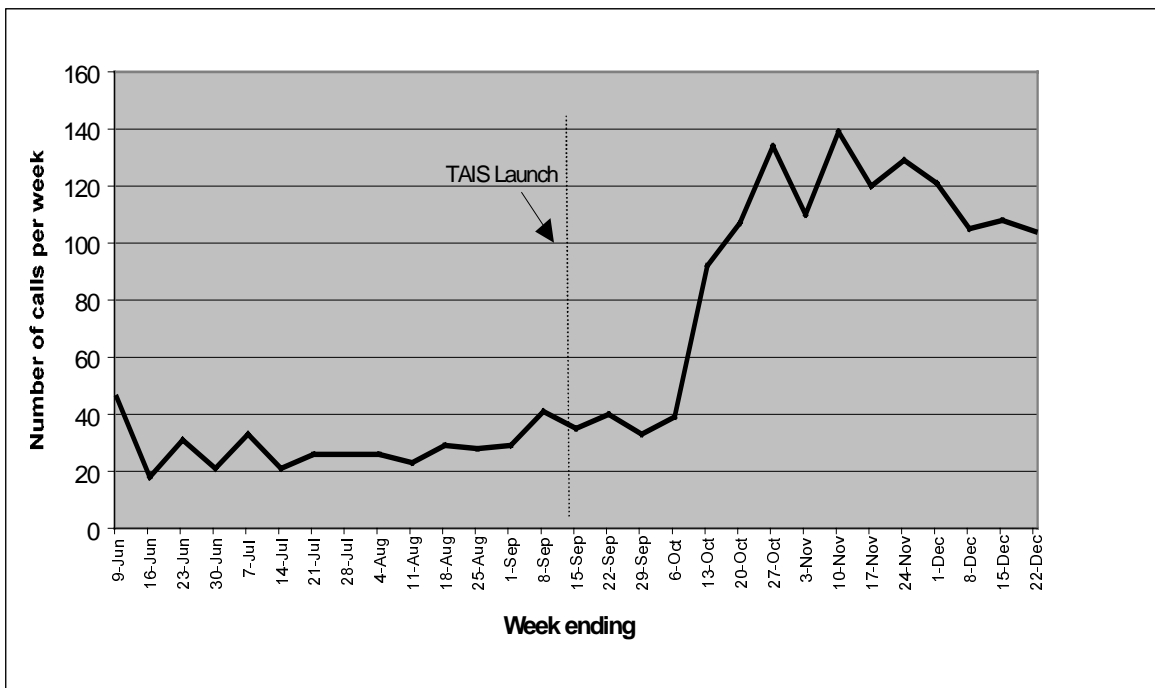
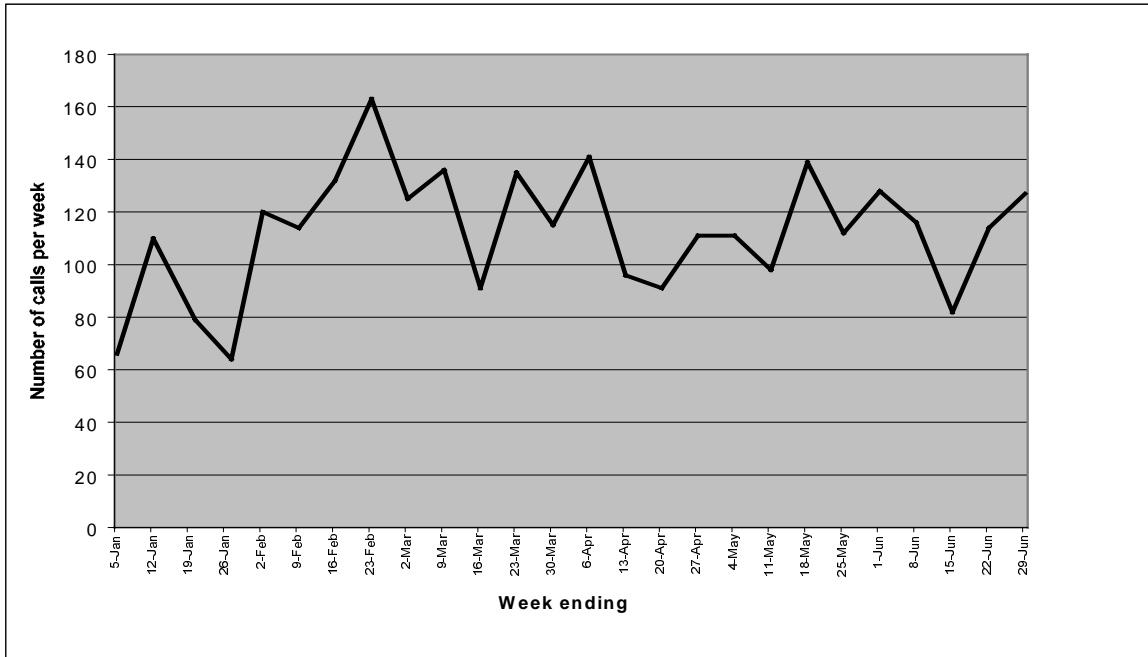
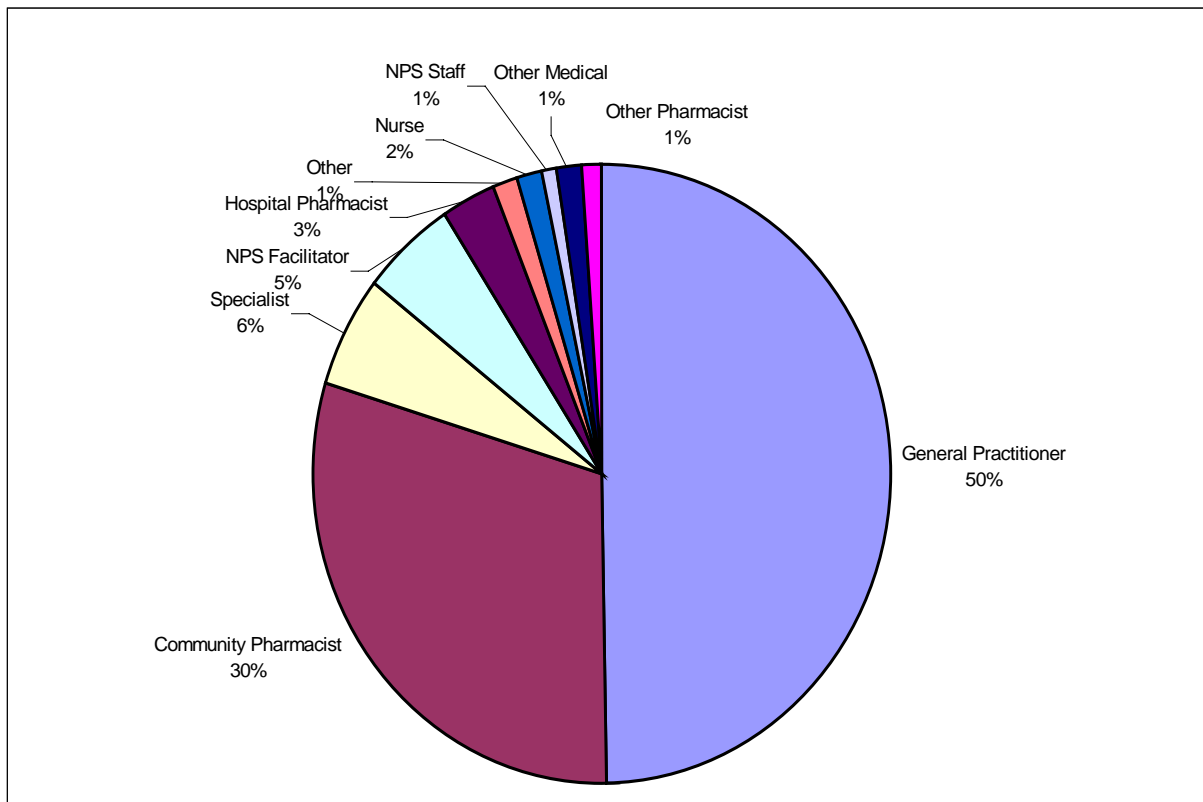


Figure 8: Frequency of enquiries to TAIS (January - June 2001)



The TAIS network received 57% of enquiries from medical practitioners (primarily general practitioners) and 34% from pharmacists, the majority of whom were community pharmacists. The complete breakdown of enquiries by type of caller is illustrated in figure 9.

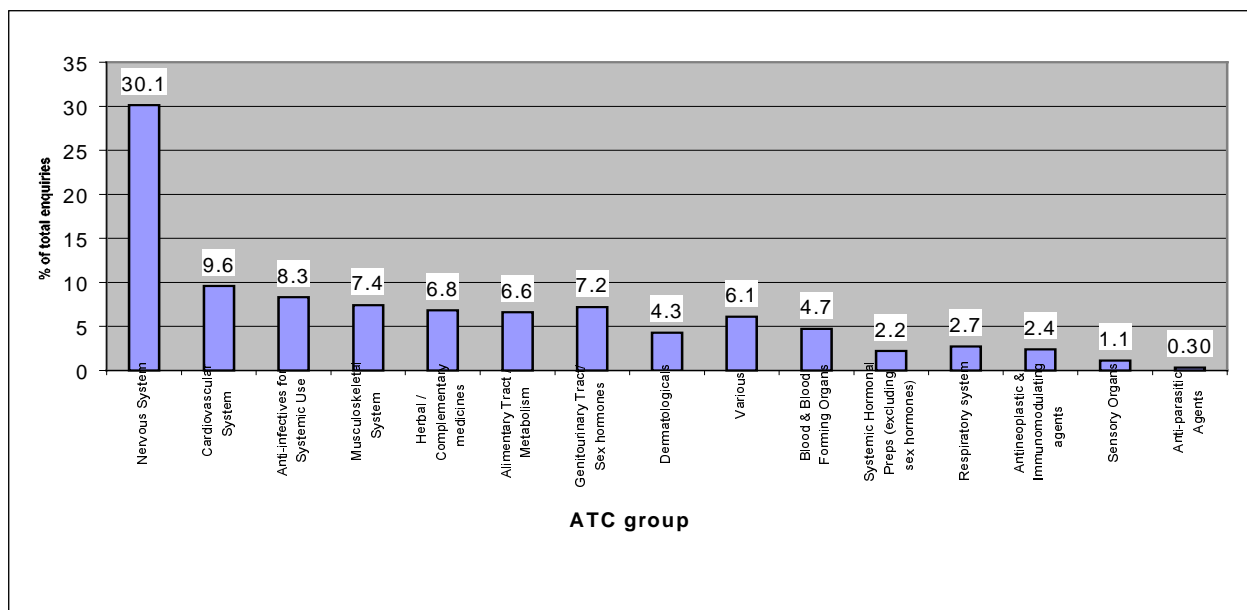
Figure 9: Types of caller contacting TAIS



Almost 72% of inquires were patient related and over 44% of the questions received by the TAIS service involved potential adverse drug reactions or interactions. Other main call topics included: therapeutic strategy, pharmaceutical issues and pregnancy/lactation.

Over 50% of the calls focused on the therapeutic areas of the nervous, cardiovascular and musculoskeletal systems and infection. Figure 10 demonstrates the breakdown of calls into Anatomic Therapeutic Classification System (ATC) groups.

Figure 10: Therapeutic areas covered in enquiries to TAIS



Almost 75% of calls to TAIS were generated through promotion via either NPS facilitators or NPS literature.

40% of callers required their enquiries to be answered immediately. The remainder of enquiries had deadlines ranging from 'within the hour' to '>month'. In 97.9% of cases, call deadlines were met.

The time spent by TAIS staff answering enquiries ranged from '0-5' to '>240' minutes. Most enquiries were answered via telephone. The mean enquiry time per site ranged dramatically, with a mean of 67 minutes at the DATIS site, to 27 minutes at the Victorian and Western Australian sites.

In the second NPS GP survey (October - December 2000), 20% of respondents were aware of TAIS. The most commonly reported use of the service was 'referencing'. A total of 9.2% of GPs were aware of who operated the TAIS and of these, 68.3% knew it to be the NPS.

7. Conclusions

The current report provides an overview of NPS evaluation results for the period ending June 2001. In brief, these results are encouraging and give support to the positive impact of NPS in improving quality use of medicines. To date, 7,890 individual GPs have participated in at least one NPS activity, representing 45% of the 17,500 vocationally registered GPs in Australia. A total of 24,862 NPS activities have been undertaken in the categories of clinical audits, case studies and practice visits. Currently, 91 divisions (including those serviced by DATIS and QRMSA) have contracts with the NPS, representing 74% of the 123 divisions throughout Australia.

The continuing approach to the evaluation of the NPS will be broad ranging and comprehensive, aiming to provide information that will be useful to future decisions. Specific questions to be addressed by the evaluation working group will include:

- Are we achieving national coverage?
- Are we achieving participation across a range of activities and topics?
- Are we acceptable and useful to our key stakeholders?
- Are we changing knowledge and attitudes?
- Are we changing prescribing practices?
- Are we improving health outcomes?

8. References

Henry, D., Lim, L.L., Garcia Rodriguez, L.A., Perez Gutthann, S., Carson, J.L., Griffin, M., Savage, R., Logan, R., Moride, Y., Hawkey, C., Hill, S., Fries, J.T. (1996). Variability in risk of gastrointestinal complications with individual non-steroidal anti-inflammatory drugs: results of a collaborative meta-analysis. *BMJ* 312(7046): 1563-6.

National Heart Foundation of Australia. (1999). 1999 Guide to the management of hypertension for doctors.

Therapeutic Guidelines, Antibiotic: Version 11. (2000). Therapeutic Guidelines Limited: Melbourne, Australia.

9. Appendix I

Question as asked in the second GP survey regarding the 'completeness' and 'trustworthiness' of NPS prescribing information and feedback.

Please consider the two main types of information you receive from the NPS: 'prescribing information and 'feedback information'.

Prescribing information is the general information you receive about the appropriate use of medicines for specific conditions.

Feedback information is the information you receive which compares your prescribing behaviour with other GPs.

We would like you to rate the 'Completeness' and the 'Trustworthiness' of both types of information.

How would you rate the 'Completeness' of NPS information?

Please tick a response for both Prescribing and Feedback

	PRESCRIBING	FEEDBACK
a) VERY POOR	<input type="checkbox"/>	<input type="checkbox"/>
b) POOR	<input type="checkbox"/>	<input type="checkbox"/>
c) ADEQUATE	<input type="checkbox"/>	<input type="checkbox"/>
d) GOOD	<input type="checkbox"/>	<input type="checkbox"/>
e) VERY GOOD	<input type="checkbox"/>	<input type="checkbox"/>

How would you rate the 'Trustworthiness' of NPS information?

Please tick a response for both Prescribing and Feedback

	PRESCRIBING	FEEDBACK
a) VERY POOR	<input type="checkbox"/>	<input type="checkbox"/>
b) POOR	<input type="checkbox"/>	<input type="checkbox"/>
c) ADEQUATE	<input type="checkbox"/>	<input type="checkbox"/>
d) GOOD	<input type="checkbox"/>	<input type="checkbox"/>
e) VERY GOOD	<input type="checkbox"/>	<input type="checkbox"/>